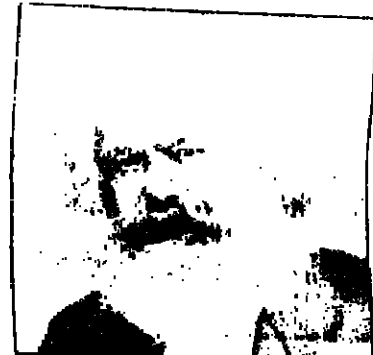


"Who asks about us?" David Jobbins reports from the remote valleys of northern PAKISTAN, where education is only now beginning to win a foothold in an inhospitable terrain (page 12)

A new Camelot? or a polite compromise? The "adversary relationship" of American intellectuals to the political system has warmed to a more or less friendly accommodation. David Walker talks to SEYMOUR MARTIN LIPSET, a paradoxical Trotskyist on the "New Right" (page 13)

Maladie du pays: only now is HOME SICKNESS being recognized and treated as a specific and serious problem among higher education students. An Shirley Fisher describes, it's also far more widespread than anyone had thought (pages 16 and 17)

In the week after Christmas, Mr NAKASONE, prime minister of Japan, announced his new cabinet. It was a predictable compromise of forces, the better to push through a new programme of reform. Rei Shiratori looks at the slow revolution of post-war Japan (page 17)



Making sense of MARXIST THEORY takes priority over judgements about its predictive power. Peter Abell reviews the work of Jon Elster and examines his reconstructions of Marxian analytics (page 18)

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Ministers and ministries
Dennis Welland on Thornton Wilder
DIY validation

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Defence of history

Historians are increasingly concerned about the decay of their discipline. This is most marked in schools where primary and the early years of secondary education history is often incorporated in an undifferentiated humanities or, worse still, social studies programme, and in the later years is often squeezed down the list of pupils' preferences by apparently more vocational subjects. But they fear that this erosion of history as a subject in schools may lead inexorably to its future weakness as a discipline in higher education.

This growing concern has persuaded the Historical Association to mount a campaign in defence of history. The aim is to convince potential pupils and students that history is not just a celebration of the past nor some fey literary preoccupation that enables the initiated to make the most cultivated use of their leisure, nor an arid archival subject worthy of study by the few who wish to make an active and engaged commitment to our present society.

As part of this campaign a meeting was held at the House of Lords on Monday chaired by Lord (Alan) Butler. In close support were Professor John Roberts, warden of Merton College, Oxford, and presenter of BBC 2's recent historical extravaganza *The Triumph of the West*, Professor Sir Geoffrey Elton, regius professor at Cambridge, and other members of the discipline's establishment.

However, this concern about the decline of history is not confined to university historians or history teachers in schools. Indeed one of the most involved participants has been the Secretary of State for Education and Science, Sir Keith Joseph. His speech on "Why teach history in

school" at a Historical Association conference two years ago was both an expression of his personal concern and a decisive contribution to the present campaign. Another more recent but equally important contribution to the debate has been H M Inspectors' *History in the Primary and Secondary Years*, a thoughtful and balanced guide to good practice in schools.

So far the debate has been largely confined to history in schools. But it is right that higher education should be deeply involved, not just because there will be a dearth of good candidates to study history in universities and polytechnics with baleful consequences for history departments, but because history as a higher education discipline exercises an inevitable intellectual leadership over history as a school subject. Its character is largely determined by the preoccupations of academic historians. So the latter have a special responsibility for the health of history in colleges and schools - and, some would add, in the media, publishing and our broader national culture.

It is good to see that leading British historians accept that responsibility. Nevertheless their intervention has exposed the anomalous character of history in Britain. The most obvious is the low-grade relationship that history has with the social sciences. In France, where Fernand Braudel who died just before Christmas was not only a famous historian in his individual right but also one of the most influential figures in the apparatus of French social science, or the United States, history has no doubt about its close affiliation to social science. But in Britain many historians have tried to deal at arm's length with social science. Nor is this simply the result of an

ephemeral political expediency; it reflects their deep-seated suspicion of sociology, anthropology and the rest. This is not true of all historians. But it may be significant that the present Historical Association campaign is dominated by those who may be regarded as old-style historians preoccupied with political and economic developments and suspicious of the claims of social and cultural history.

No Edward Thompson, which may be explicable if not justifiable in terms of crude politics, but no Keith Thomas? The result of this bias may be a weakening rather than a strengthening of the message that a strengthening of the imagination of young people in schools rather than the celebration of great men and great events.

Maybe a history with open frontiers has more to offer than a history with a closed traditional identity. Certainly a more broadly based campaign in defence of history, one that more successfully incorporated the great intellectual excitement that the discipline has generated in recent years mostly perhaps outside its traditional territory, would have been an advantage.

However there may be another dimension to this debate. Again the contrast with France is illuminating. There history is a vital part of a vigorous public culture. Books like *Montaigne* sell in numbers which we associate with Jeffrey Archer's novels. Not surprisingly history enjoys both high intellectual prestige and wide popularity. The decay of history in British schools may simply be one aspect of a wider failure of history to engage more than academic commitment or cultural consumerism, to excite the democratic imagination.

Wrong way and therefore to enter the building when reality he was trying to lose. Unfortunate. Any other fronts? Yes indeed. At 3.34 pm, we were practicing a chant learnt from our new friend. A chant? MAGGIE - MAGGIE - MAGGIE. OUT - OUT - OUT. Of course. Just as we were chanting, we this figure on a big approaching the picket line great speed.

A strike breaker? Not exactly, no. It turned out to be our colleague Doctor Muller, who explained to us what I must say was a courteous manner, that he never heard of the Day of Action, was not aware that Wednesday was always Day, and was, in any case, popping into the department pick up some writing paper, borrow an Anglophone. You turned him back? He seemed delighted. Excellent. Anything else? Only to say that our picket line by a majority of 4 to 1. Doctor Wernitz abstained. That it had been a day on union solidarity had been demonstrated and to enter this voted to place a poster the adjacent biology block before leaving for home.

Rectify the Anomaly? No, not that. Remedy the Error? That did find some support. In the end we voted 3-2 more general sentiment. Yes? 2-4-6-8. RISE AND SHINE THE WORKER'S STATE

lead; today it is on the pluralist utility of the various social sciences. In political terms this is perfectly defensible. It is much easier to bash something called "social science" than to question the urgent relevance of economics, accountancy, management or even social work.

Yet it remains not only legitimate but essential to consider social science as a unity. For its disciplines have common roots and inhabit a common culture. It is this culture of orthodox and heretical theories, ideological preferences, intellectual methods and academic habits which the social work educators, the accountants, the economists, the management people read to provide the infrastructures of their disciplines.

Of course to talk in the 1980s of a unified social science such as that which Comte and Marx tried to construct or to which even Weber may have aspired makes little sense. But it is almost as foolish to deny the intellectual commonality of social science even in the present age of specialization. Social science is more than the sum of the social sciences.

how strongly the psychology of the scientific community is shaped by the memory of the 1960s, when basic scientists had funds increasing in real terms at 10 per cent or more a year and by large distributed their own according to criteria of their own choosing. Times have changed, as the universities in which most of the researchers work well understand. And the Government has ready answers to the Save British Science case: if Germany spends twice as much as the UK on basic research that's because the Germans are twice as rich, not vice-versa. And if vital projects are really falling by the wayside when UK public support for science runs at £500 million a year for the research councils alone, someone must be spending money on the wrong things.

So it is wrong to see the plight of science as the result of a simple communication problem, or a misunderstanding, although it is this conviction which has finally persuaded a significant body of scientists to stop behaving as though they are above the fray in battles over government spending. After a few false starts (whatever became of the Alliance for Science?) researchers are finally going to act like any other claimants on the public purse - with pressure groups, pamphlets and press handouts. And so they should. But if they are to put the strongest possible case, they will have to outline how to develop a coherent science policy, as well as demanding the money to pay for it.



Can we now move on to Reports from Pickets, Lapping, your contingent positioned on the side of the university?

Yes, that's right. There of us on duty. Four and a very pleasant you from town who arrived afternoon to offer us a called "fraternal greeting". Yes, yes. But any probleming the day?

Not really, no. A few first with the brazier. And when it was going, then some slight disagreement: the correct response to Quintock's seasonal suggestion that we might roast a few nuts.

Quite so. But any attempt cross the picket line?

Nothing too serious. One major confrontation was in the morning when Dr Porter appeared. As we at our pre-Day of Actioning, we immediately went to him the advantages of solidarity and briefly of the plight of lecturers at the scale. But our aim was somewhat undermined the fact that due to a

As expected, they showed a significant increase in the anticipated demand for higher education throughout the 15-year period covered in the report by DES statisticians.

The projections, which will be updated again later in the year, show an increase of 7,000 students this autumn compared with the forecasts contained

in the Green Paper on higher education. But numbers are still expected to drop by 76,000 at the lowest point, in 1996.

All the new forecasts are based on the more pessimistic of the alternatives mapped out in previous reports. Both the NAB and the UGC have supported the more optimistic "Variant X" as a more realistic assessment of future demand, but only "Variant X" is the basis of Government spending plans.

The report, without altering the assumptions made in the Green Paper, offers four separate projections of the effects on different subject areas. All four assume that numbers in science and engineering, medicine and initial teacher training will remain constant throughout the 1990s.

One of the projections allows for all the cuts to fall on arts, humanities and social science courses in polytechnics and colleges. Student numbers on those courses would drop from 145,000 this year to 64,000 in 1996. However, the DES commentary on the statistics concedes: "In all probability, that would not be practicable."

The other estimates divide the cuts between the sectors and changes in demand from: maths, sciences and school leavers. In these, university departments in the threatened subjects would lose up to 40 per cent of places by 1996 while the public sector lost about one third.

The tripartite meeting was the first in a series requested by Sir Keith Joseph, Secretary of State for Education and Science, to try to reach agreement on the division of students between the universities and the public sector.

Labour's 10-year plan for higher education was unveiled this week with the target of 20 per cent of 18-year-old school-leavers going on to university or college and a massive expansion of "second chance" higher education for adults.

Labour leaders are appalled that only 13 per cent of Britain's school-leavers enter higher education while more than one in five Americans are graduates.

They want to widen access for working class children and other non-traditional groups by encouraging more students to stay in full-time education beyond 16, partly through the introduction of maintenance allowances.

The party's programme, Education Through Life, hinges on a substantial increase in the number of young people in higher education coupled with more adults returning for "second chance" education and training at university or polytechnic.

Mr Giles Radice, Labour's education spokesman, said that the cost of package, excluding the plan for educational maintenance allowances for post-16 students at school or further education college, would be £500 million, a quarter of it on student support.

"Our industrial society desperately needs the knowledge and research which only higher education can provide," he said.

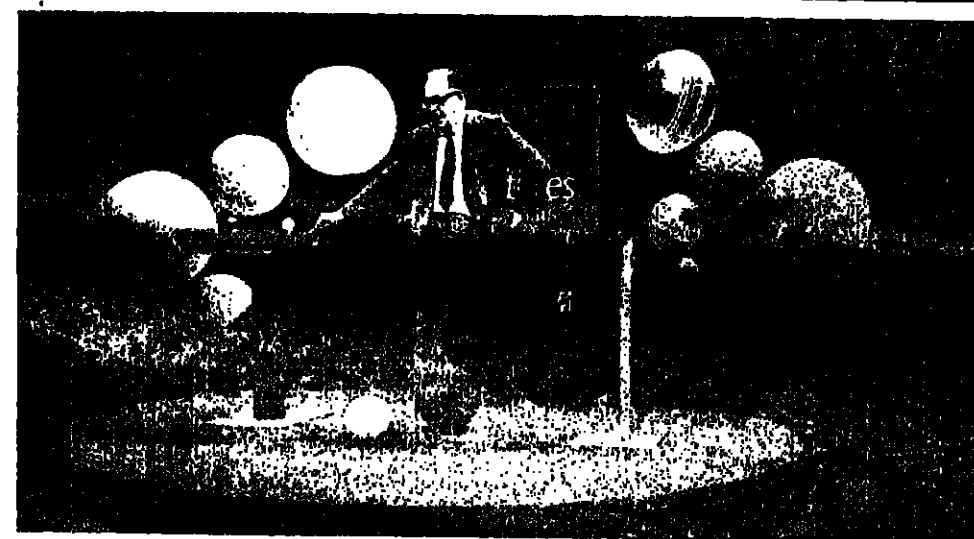
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The University Grants Committee would be replaced by a more open and representative universities council, while a stronger regional dimension would be built into the National Advisory Body.

The Times Higher Education Supplement

January 24, 1986 No 690 Price 65p



Dr John Horlock, vice-chancellor of the Open University, has become well versed in the art of conducting a balancing act on the subject of OU funding. Recently he chose to demonstrate his juggling skills for his OU television lecture entitled "The Fluid Mechanics of Sport."

DES confirms demand predictions

by John O'Leary

Student numbers in science, technology, teacher training and medicine will not fall for the rest of the century, according to the Government's latest projections. But the arts, humanities and social science may lose a third of their places by 1996.

New estimates were discussed yesterday at a joint meeting of the University Grants Committee, the National Advisory Body for Science and Technology, and the DES.

As expected, they showed a significant increase in the anticipated demand for higher education throughout the 15-year period covered in the report by DES statisticians.

The projections, which will be updated again later in the year, show an increase of 7,000 students this autumn compared with the forecasts contained

in the Green Paper on higher education. But numbers are still expected to drop by 76,000 at the lowest point, in 1996.

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University teachers next week face a 1985 pay award well below the rate of inflation as the price for a joint approach to ministers over university funding.

The executive of the Association of University Teachers will decide today its response to what vice chancellors have declared is their final offer of 4.9 per cent before negotiations resume next week.

While some union leaders see scope for a further increase, possibly up to the 5.2 per cent already offered to other groups of university staff, the employers this week dug in their heels.

The AUT rejected 4.9 per cent when it was offered in Committee A, this week. Ms Diana Warwick, the union's general secretary, said: "We were not happy about the offer, but we recognize,

particularly after last week's industrial action, that we need to further the campaign on funding."

The employers called on the chairman of Committee A, Sir Alexander Johnston, to impose a settlement if the AUT rejected the offer, but union negotiators successfully argued for an adjournment.

A ruling by the chair is highly likely next week if the employers do refuse to improve the offer and would be binding on both sides.

The AUT is anxious to get to the next stage in the bargaining machinery, Committee B, so that it and the vice chancellors can argue the case with the Department of Education and Science for higher funding.

A settlement will clear the way for discussions between the two sides on

Green Paper comes under double attack

by Peter Aspden and Karen Gold

Vice chancellors and polytechnic directors have launched a twin-pronged attack on the Government's Green Paper on higher education which, they claim, fails completely to take account of the needs of the nation in the next 15 years.

The strength of the criticism in the two formal responses from the Committee of Vice Chancellors and Principals and the Committee of Directors of Polytechnics indicates the depth of opposition to the Government document.

The vice chancellors' "alternative" green paper accuses the Government of taking a "blinkered view and failing to address itself adequately to the scale of the problems which we face."

There has, unfortunately, not yet been any clear recognition of the growing incompatibility between the concept of autonomous universities (with the competition between them overseen by the UGC) and the increase in ministerial and departmental intervention often at the level of detail," says the document.

The vice chancellors say that British universities accept that they are likely to have to manage on less money than their competitors - "but there is a limit beyond which quality will be sacrificed and the system will lose its ability to adapt readily to changing circumstances."

The document contains many passages which are strongly critical of the Government's judgement on a wide variety of issues. On overseas students, for example, the rise in fees showed a "misjudgement of the changing character and growing importance of cultural diplomacy", and an underestimation of the importance of establishing early contacts with tomorrow's foreign and Commonwealth economic, commercial, academic and political leaders.

The paper also defends the balance of rights of students. "The gathering together of a large number of young people is bound on occasions, to lead to difficulties and from time to time the behaviour of student unions will need firm direction."

"Without the possibility of error there can be no chance of learning to behave responsibly. There are, in any case, a number of safeguards which act as a check on foolish or extreme behaviour. All registered students are members of student unions and this should continue to be the case."

But on the issue of staffing, the CVCP response paints a bleak picture: "There is a deep sense of grievance and distrust which cannot be ignored be-



GREEN PAPER

cause its effects, by way of recruitment, retention and motivation, are likely to damage both the efficiency and effectiveness of the universities.

"In the interests of justice, staff morale and the academic health and standing of the universities, the Government must soon find the funds for a substantial rise in university salaries and also agree a rational and equitable arrangement for fixing and funding pay in the university system in the future."

The directors of Britain's 30 polytechnics this week said they were disheartened and gravely concerned by the piecemeal and inconsistent nature of the Green Paper.

It was a missed opportunity, and a sign that the Government was no longer prepared to play its part in achieving higher education which served the needs of industry, commerce, the professions and public services, said the Committee of Directors of Polytechnics chairman Dr Harry Law in a letter to Sir Keith Joseph, the Secretary of State for Education and Science.

The directors say they are worried about reductions in the real level of student grants and the grounds of cost being used by the Government to limit access to higher education under the agreed new Robbins principle of "ability to benefit".

The balance between subjects should be demanded, not manipulated in response to attempts at manpower planning, the letter says. It calls for Government recognition of arts teaching in polytechnics, and objects what it says are the Green Paper's implied criticisms of teaching in these subjects in the public sector compared with the universities.

The absence of the dual support research system and equal funding for teaching between universities and polytechnics caused the CDP alarm, the letter says supporting the NAB's call for an over-arching planning body for higher education, rejected in the Green Paper.



Who will be king of the jungle? 15

AUT may sacrifice pay to funding campaign

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In Scotland, an end to the year-long college lecturers' pay dispute is in sight, with the management of the Scottish Joint Negotiating Committee offering a 6.1 per cent increase.

The Further Education Lecturers' National Section of the Educational Institute of Scotland, and the Scottish Further and Higher Education Association are balloting members on the offer, while the three other lecturers' associations involved were to hold meetings this week to decide their response. It is expected that the SJNC staff side will accept the offer at its meeting on February 4.

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When this column appears I shall be packing the final items in my office in the polytechnic so that Christopher Price can take over on February 2, which is the feast of the purification of the Blessed Virgin.

That sounds appropriate; but in addition I think I should leave him some advice about how to conduct a polytechnic - or indeed any large institution of higher learning. And since I have collected many useful quotations and received lots of unsolicited advice during the last 15 years, I think I will pass it on in the form of an open letter:

Dear Christopher, In tidying up my files so that you will find nothing dangerous, I have come across the following items which should help you to run a polytechnic.

When I started, a management consultant sent me these comments about meetings: "Has it ever been the case that at the end of the meeting you still do not know who the members were, that no real conclusions were reached, that there was excessive discussion on unimportant details, that the point could have been decided without calling the meeting, that the meeting was monopolized by one member, and that discussions continued on the point after it had been agreed?"

I don't suppose any of that will happen to you. But in case it does, Miss Minor, assistant registrar at Bristol Polytechnic, sent me a useful copy of Sir John Beljeman's *ABC of Double-talk*, which he described as a feasibility study in semantics and which gives the real meaning of many phrases with which I have become familiar at meetings of the academic board. They include:

Carefully considered - I've not had time to read it; *Far be it from me* - I know better; *I'm sure you're right* - I'm sure you're wrong; *I regard this honour as a tribute to the whole team* - It was all my own doing; *Of course you know best* - of course I know best; *To be perfectly frank* - don't believe a word I'm going to say; *With respect* - thinking very little of you as I do.

That should be enough, because you will know many more from your experience in Parliament. Any remark at the academic board which starts with the word *frankly* is sure to be the most outrageous lie and any subject which starts with the phrase *(I may raise a small point)* will last into the night. And beware of anyone who says *surely this raises a matter of principle*.

Here are some salutary excerpts from several dictionaries of quotations. From Emerson: "I pay the schoolmaster but 'tis the schoolboys that educate my son." From Montaigne: "We receive three educations, one from our parents, one from our schoolmasters, and one from the world. The third contradicts all that the first two teach us."

From Samuel Butler: "Learning is like a great house that requires a great charge to keep it in constant repair." And from someone called Minna Antim: "Experience is a good teacher but she sends in terrific bills."

And finally let me give you a piece of advice sent to me by our retiring head of social studies. It comes from a *Glossary for Social Workers* and I leave you with this peculiarly appropriate definition: "Structured environment - any democratic institution during the first three months under a new director, before he realizes it's hopeless and starts giving orders like everyone else."

Patrick Nuttgens

Letters to the editor

Language of scientific priorities

Sir, - Your editorial on *Save British Science* (THES, January 17) might have been more persuasive had it got the facts right. Germany does not invest twice as much as the UK. That was true in 1981. It now invests three times the UK budget and that ratio is planned to rise to 3.5 per cent by 1989 (see our evidence in *Nature*, 1986, 319, 169). Moreover, the Government does not have the ready answer that "the Germans are twice as rich" for, as its own recent published figures show, the difference in expenditure on civil research is still very large (2.5 per cent compared to 1.6 per cent) even when expressed as a percentage of Gross Domestic Product. *The Economist* and *The Daily Telegraph*, in their accounts, got those facts right.

You ask SBS "to learn to speak the language of priorities". But the primary lesson in that language is to get the biggest priorities right first. No amount of tinkering with our present budget will hide the fact that British science can no longer compete on a wide enough front and that we will find it increasingly difficult to retain first class talent in this country.

What the Government needs to do is to explain why we should be the only advanced industrial nation to fail to

provide the investment needed to meet the challenge of the technological revolution in science in the last decade. We are now firmly at the bottom of the league. As a nation badly in need of strategic investment to regenerate our economy in the long term when we no longer have North Sea oil, one would have thought that the reverse ought to be true.

The first step towards a coherent policy is for the Government to listen to its own advisors, and to the House of Commons Education, Science and Arts Committee (June 1985 report), and to stop treating scientific research as a luxury the nation cannot afford.

Yours sincerely,
Professor DENIS NOBLE, FRS,
University Laboratory of Physiology,
Parks Road, Oxford.

Sir, - Your editorial states "it is not persuasive to argue, as Professor Colin Humphreys did on Monday, that the most important task is to get more money for science - and we should debate how to spend it afterwards. The two are indissolubly linked". It is, of course, correct that the two are linked (I stated this at the press conference on Monday) and that the UK must deter-

mine priorities in its funding of science.

However the facts are that the American, Japanese, German and French ways of determining priorities all lead to a very substantially greater total investment in civil science funding per capita than that in the UK. Unless our main industrial competitors have all got their science policies and priorities wrong, which seems unlikely, the inescapable conclusion is that for any reasonable set of priorities the total civil science budget in the UK is inadequate.

The 1985 Government annual review of research and development states "the UK Government comes bottom, or next to bottom, of the R&D league of the six major European community nations in all areas except defence, where it is top". After pointing out that total expenditure on R&D is rising in other countries the annual review states "in sharp contrast, UK total expenditure on R&D is now in decline". The aim of the SBS campaign is to reverse that decline.

Yours faithfully,
COLIN HUMPHREYS,
Department of Metallurgy and Materials Science, University of Liverpool.

History books

Sir, - Your editorial, "Defence of History" (THES, January 17), is short of basic facts. For example, of the 50,000 published books of 1985 how many can be roughly described as to do with history and how does this proportion compare with 10, 20 or 50 years ago? Within my time I have seen the rise of Latin American, Soviet, and Far Eastern departments teaching history that never existed before. A glance at the annual programme of lectures at Oxford, to take one important university as an example, reveals an astonishing breadth of historical interest.

The mention of France is likewise defective. It is true that historians like Le Roy Ladurie and d'Ormesson have been outstandingly successful in popularization, but so have in their different ways A. J. P. Taylor, A. L. Rowse, and Antonia Fraser. My own experience convinces me of the superiority of the Fontana series to its French equivalent. And what of the perennial complaint of *agréés* de



Antonia Fraser: popularization

letters that the best students have deserted letters for science?

It is safe to say that no society has known so much about its own origins and those of other societies as our own. The widespread popular interest in archaeology is some testimony to this. Nearly all country towns possess civic societies devoted to the preservation of the best of the

past. Some of their publications are either professional or quasi-professional. This more than any other is a record-keeping society, whose output accumulates massively.

Your article takes no account of the sociology of knowledge. At any one time only a limited range of facts is assimilable by the community as a whole. This makes history a double-edged weapon. Was Dunkirk a triumph or a disaster? Churchill a saviour or an anachronism? Was Napoleon a reforming genius or a megalomaniac who hid France while? What is the significance of colonies? The answer will depend on time and place. It is probable that the most dynamic social view will be one informed by a very partial view of its history - by a myth, if you like. But history itself cannot do the selection. *The American Dream* is good, *Bud and Boden* is bad, but these are post facto judgements.

Yours sincerely,
KEN BURGIN,
21 Havthornes, Whitehall Road,
Woodford Green, Essex.

Special quality

Sir, - Professor Pinker's article earning a Lesson from Janine" (THES, December 20) and Andrew Rowe's letter, "Gulf between Intention and Practice" (THES, January 12) both address the issue of specialisms in social work practice and training. Professor Pinker nails his flag to the mast of specialized qualifying training in social work, which (he infers) CCETSW rejects entirely. Not so!

Courses recognized by the council for the award of the Certificate of Qualification in Social Work (CQSW) have been positively encouraged to develop special emphasis, a fact which Professor Pinker must have forgotten. Furthermore, as chairman of a CCETSW committee he presided over an exercise in which the council's requirements for the assessment of students for the award of the CQSW

were made a good deal more specific. Andrew Rowe suggests that social work students have too often been given the idea that when qualified they might be expected to turn their hand to any form of social work. If that is the case it is more likely to be a reflection of the deployment of staff in the services than deliberate policy on the part of either CCETSW or COSW courses.

The degree of "specialization" needed by newly qualified social workers, and in what fields, certainly is a matter for further discussion, which CCETSW will be pursuing with the interests concerned.

Yours sincerely,
PRISCILLA YOUNG,
Director,
Central Council for Education and Training in Social Work,
Derbyshire House,
St Chad's Street,
London WC1.

Overcomputing?

Sir, - Of the 21 academic appointments in British universities advertised in today's issue of *The Times* (January 17) 11 are in computing. Is this a record? More important: is anyone prepared to take a £10 bet against my claim that before January 1986 you will carry a report of a chairman of the University Grants Committee or someone of that ilk, expressing doubts about the value of having such a large proportion of the university system devoted to an area in which many of the skills will by then be rather mundane, and within the reach of any home computer user?

Could I through your columns suggest to Sir Peter Swanton-Dyer that

one of the functions of social scientists is to remind our political and academic leaders of unpopular social truths, and to do so properly we need the resources, just like any physical scientist, to collect the data which will enable us to explore alternative hypotheses? Furthermore, is it not the main rationale for the existence of the UGC that it alone is capable of defending the university system against the penalties of transgressing current political fashions?

Yours sincerely,
GARETH WILLIAMS,
Department of Economic, Administrative and Policy Studies in Education,
University of London Institute of Education.

Welsh body

Sir, - *The Times* has limited its editorials recently to discussing the merits of the National Advisory Body. There is, however, a parallel body which operates in Wales - the Wales Advisory Body for public sector higher education.

As in England, the advisory body has been used to validate funding changes which would otherwise have been obviously indefensible. For example, the unit of resource in Wales has ranged from £4,818 to £2,166. The lowest figure has applied to the Polytechnic of Wales, the highest to colleges in another part of Wales. The level of topping up has ranged from 0.8 per cent to 22 per cent, quite sufficient to destroy any idea of a national plan for Wales.

Also, the Polytechnic of Wales has received no money for the science / engineering switch.

The consequences of these facts will be serious if they are unattended. What the WAB seems to have missed - in common with the NAB and *The Times* is that, when the crunch comes, there will be no compulsion on students to come to the underfunded public sector and this in turn will be used to justify closure on the grounds of failing to attract students.

Yours faithfully,
G. W. CORNEY,
Vice Chairman, Association of Polytechnic Teachers.

Letters for publication should arrive by Tuesday morning. They should be as short as possible and written on one side of the paper. The editor reserves the right to cut or amend them if

Borderline case

Sir, - In her article on the report of the Scottish Tertiary Education Advisory Council (THES, January 3), C. W. J. notes that the Scottish universities are divided over the proposal that the universities should be funded not by the DES through the UGC, but by the Scottish Office through a council which would have funding and planning control of both the university and the non-university sectors.

Surely the solution must be that a university in Scotland should be given a choice as to whether it should be "Scottish university" under the Scottish Office or a "UK university" under the UGC and DES.

No doubt in a short time the "Scottish universities" would prosper because of the superior staff attracted by higher recurrent funding they would be given by a council dominated by non-university sector and the great amount of research grants they would receive from English-based research councils. The "UK universities" would soon see the error they had made.

The article does not mention the following points:

(1) Although it is proposed that the appropriate proportion of present UK university funding should be transferred to the block grant of the Scottish Office it is clear that these funds would not reach the universities intact because the public sector has to get comparable funding for functions similar to those of universities (para 11). central institutions and colleges of education are to get additional resources for applied research (para 5.21, 5.33) and some universities would probably have their research funds cut (para 7.2).

(2) Little is said about autonomy. Para 8.9 indicates that the universities are not to have more autonomy. Are the universities to have less? It would be strange if the planning body had differing degrees of control over a subject.

(3) An expensive structure of subject and other committees would be set up to advise the proposed council. The oversight of a relatively small number of institutions; delinquent members of UGC sub-committees would be sent up to meetings in, let us say, Paisley, to ensure that UK peers are maintained.

(4) The report expresses the hope that "adequate safeguards for the Scottish universities in relation to access to research council funding" can be achieved. What guarantees could possibly be given as to this? The report seems to accept that reduction in the research component of the recurrent grant would affect the universities' ability to compete for research council grants (para 8.22) but later indicates that the research component will be well below the level of £1.8m.

(5) There is very little in the report about postgraduate education. It strengthens the impression that STEAC did not know much about what goes on in universities. This hardly surprising as only one member of the STEAC came from the universities while three members were not with the public sector, the five being from industry or the private sector.

(6) The report recognizes the importance of the interlocking of the Scottish UK university systems - the fact that no less than a quarter of undergraduate entrants come from outside Scotland, that there are such accounts for a substantial proportion of the UK provision, that the staff are largely recruited on an international basis. It fails to reach a conclusion that decisions on numbers and manpower taken generally cannot be taken in isolation.

One differs with difference of conclusion of a committee of the University Grants Committee, that the case for UGC for the UK is not convincing. Moreover, it is difficult to see how anyone can think the financial position of the universities would be improved by the proposed change.

Yours faithfully,
W. A. WILSON.

Fewer graduates but more jobs for the girls in 1986

by Carolyn Dempster

University graduate output in 1986 will drop for the first time since the early 1940s but job prospects should improve, with a 4 per cent increase in the number of graduate vacancies, forecast the three organizations monitoring graduate employment.

Information supplied by the Association of Graduate Careers Advisory Services, Central Services Unit and the Standing Conference of Employers of Graduates shows a worrying decline in engineering and technology graduates - 8,971 in 1986 compared to 9,900 in 1985 - with science graduates falling from 17,438 to 16,635.

The number of university graduates available for employment, dis-

counting those continuing with further study or going overseas is expected to be in the region of 65,000.

Immediate cause for concern is the marked fall in graduates interested in becoming teachers. This coupled with the defection of graduates in science and engineering to the City in pursuit of high pay and rapid promotion prospects bodes ill for the future, say the bodies.

Teachers are leaving the profession, reports AGCAS, while applications for Post-Graduate Certificate of Education places were down by 28 per cent on the previous year's figure.

Applications for PGCE places in mathematics have dropped from 570 in 1985 to 397 (as at November last year), in chemistry from 398 to 259 and in physics from 219 to 147.

"We are facing a near crisis in maths and physics, and in my opinion this is going to be one of the national debates in the coming year," said Mr Jack Daniels, spokesman for AGCAS and a senior careers adviser at the University of St Andrews. For every 10 vacancies that existed in maths and physics, another 15 should be added because these positions were filled by people not qualified to teach the subjects, he added.

Job prospects for graduates are set to be the best for five years according to AGCAS statistics compiled in a survey titled "What Do Graduates Do?". Demand from the non-manufacturing sector, especially finance, is up by 15 per cent, and there are still several unfilled vacancies in manufacturing industry.

The growth of small and medium size businesses in the electronics industry has given rise to increased demand for qualified staff, and there has been more vigorous off and on campus recruiting.

Over the last five years, the revival in demand has benefited both polytechnic and university graduates.

With the increasing emphasis on good numeracy and communication skills, a degree remains a highly marketable and flexible qualification as long as graduates are prepared to be mobile in their search for employment. The survey does stress that immediate job prospects will be strongly influenced by choice of degree.

The labour market has become more polarized with the demand for

electrical and electronic engineers exceeding supply, but the output of biological and environmental science graduates has outstripped the number of jobs.

While sex discrimination remains a problem for women in their search for employment, the numbers entering commerce and manufacturing industry have risen considerably. The most significant growth has been in architecture, agriculture, forestry, veterinary science, social administration and business studies. Unemployment among university women graduates has been consistently lower than among their male counterparts - perhaps because women are more adaptable and are prepared to lower their sights, suggests the study.

White Paper bodes ill for public sector

by John O'Leary and Felicity Jones

Hopes of early Government action to remove the threat of polytechnic and college closures were dashed with the release of public spending plans for the next three years.

Although officials are stressing the provisional nature of the plans for 1987-88 and beyond, the figures in last week's White Paper make no concessions to the case made by the National Advisory Body for more money. Government support of £670 million for public sector higher education is even less than the amount the NAB had expected when it warned of the danger of up to eight polytechnic closures.

The Government expects further economies to be made in the next three years, while student ratios are tightened in both advanced and non-advanced further education. Additional support for science of £15 million per year is confirmed in the paper, together with new money for fellowships in the humanities and further allocations for equipment in selected university research centres.

The Government has gone ahead with a pilot loans scheme for adult working students through the Department of Employment.

The Government's Expenditure Plans 1986-87 to 1988-89, £24.80 from HMSO.

Leader, back page

MPs unite to condemn Scottish devolution

continued from front page

credibility if they give undue weight to them."

He accused STEAC of ignoring the issue of quality, and concentrating on the issue of student places.

Mr Barry Henderson (Conservative, North-East Fife), said there were already too much nationalism in higher education options for students. He questioned whether guarantees safeguarding the Scottish universities' present position would be forthcoming, and criticized STEAC for not examining the case for a Scottish version of the National Advisory Body.

Mr Michael Forsyth (Conservative, Stirling), said the STEAC proposals were a threat to the universities, echoing the misguided assumptions of the Green Paper that the Government knew better than students which subjects should be taught.

The shadow secretary of state for Scotland, Mr Donald Dewar, said

while there would be many reservations, it was essential to have a single body to arbitrate in the inevitable clashes between priorities and demands on resources.

But he questioned STEAC's proposal to axe three of Scotland's seven education colleges, and for the government to make a decision on their future before setting up the new body.

Scottish Secretary of State Mr Malcolm Rifkind stressed that no decisions on the colleges' future would be taken without full consultation.

EEC tops up Bath's grant

Bath University has been awarded a £1 million grant from the EEC Commission to evaluate the community's £15 million programme to relieve poverty in Europe.

A centre of four academics in the university will be asked to analyse and monitor 61 projects connected to the programme, which are taking place throughout the continent.

At the end of its four-year brief, the group will draw up the lessons which policy-makers can learn from the various social welfare projects and evaluate their effectiveness.

Dr Graham Room, a lecturer at the centre who will recruit a team of evaluators in the member states, said the evaluation of the projects was part of a wider exercise designed to encourage the exchange and cross-fertilization of ideas in the anti-poverty field.

"We will be looking at a whole range of projects, ranging from rural problems in the south of Italy to families living in inner city areas in London."

Rate support switch puts pressure on county polys

Polytechnics and colleges in the shires are faced with increased economic pressure following the announcement of the Government's rate support grant for 1986/87.

The support grant level, which caused a backlash Conservative revolt when it was passed in the Commons this week, transfers money from county councils to the inner cities. Mr Kenneth Baker, Secretary of State for the Environment, has promised that some money might be transferred back later in the year.

But although that might mean extra unexpected money for some counties, they will have to set their rates before then, and some warned this week that the loss of grant meant rates might increase by as much as 20 per cent.

According to the Association of County Councils, which lobbied all MPs, asking them to oppose the

The law may be a serious subject, but it has given South Bank Polytechnic student Alf Alcide something to smile about. He beat hundreds of applicants to win a place on a law access course at Vauxhall College in South London.

Having completed the course, which is specially designed to provide entry into the legal profession for people lacking the usual formal qualifications, Mr Alcide has now joined the first year of a degree course in law at the polytechnic.

UGC 'is an anachronism'

A radical alternative to the University Grants Committee in the shape of transitory councils responsible to regional government in a developed United Kingdom is sought by the National Union of Students.

The councils would be responsible for planning and promoting academic standards, and would operate subject to guidelines set out by ministers, the union says.

The University Grants Committee is an anachronism, the NUS says in its evidence to the Crompton Committee.

"Any review which fails to reduce the differences between current arrangements for universities and public sector higher education will soon be overtaken by events," it says.

Although it wants to see the creation of a transitory national planning agency, NUS identifies a number of principles which it says should be applied to the UGC now.

CNAA loses confidence in polytechnic

by Karen Gold

The Council for National Academic Awards has warned Liverpool Polytechnic that it cannot sustain its position of "minimum confidence" in the polytechnic after April unless its financial position is resolved.

The council agreed to refrain from putting too much pressure on the polytechnic last year, while Liverpool City Council was negotiating a solution to its budget crisis. But since the council's agreement to set a rate with financial backing from Switzerland, the polytechnic has still not had an agreed budget with the council for the financial year 1985/86, ending this March.

Since the polytechnic budget has not been approved by the council, all items of polytechnic expenditure are having to go through the city hall.

According to CNAA any institution it validated which did not have control of its own spending within an overall budget would not have CNAA confidence, and Liverpool had been warned that it was not in that position.

"We cannot continue our position of minimum confidence," a CNAA spokesman said.

The acting rector of Liverpool Polytechnic, Miss Mary Earl, said that the polytechnic was continuing to place orders and was hopeful of replacing some of the reserves used at the end of last year.

"We are not happy ourselves at the thought of persons who are not academics making judgements on academic issues. However, I believe that once the city council has formulated a budget for 1985/86 within that, there will be a very clear budget for the polytechnic," she said.

Health funds warning

The Health Education Council has warned academics that it will refuse to give them research funds if they accept money from the Health Promotion Research trust, a body backed by tobacco industry funding.

At its council meeting last weekend, the HEC voted virtually unanimously for the funding ban. The British Medical Association also decided at its annual representatives meeting to advise general practitioners not to collaborate with academics who receive tobacco industry funding.

An HEC official said the council had reaffirmed its total opposition to the research trust. "Like the BMA, the HEC believes the trust is an attempt by an industry that is responsible for 100,000 deaths a year in the UK to buy respectability," she said.

Teachers' bursary

The new bursary scheme to boost the recruitment of newly-trained teachers of physics, mathematics and craft design and technology was announced this week.

From this September a tax-free bursary of £1,200 per year will be given in addition to the student grant to all students on Postgraduate Certificate in Education and to mature students in the Bachelor of Education courses in

DON'S DIARY

SUNDAY

Church. Play guitar in group at service for Scouts and Guides. After lunch, work on chapter (due yesterday) for book on chemistry of the semiconductor industry. Visitor calls with proofs of new church service booklet to check - serves me right for boasting about experience of proofreading own papers.

MONDAY

Hard week ahead. Temperature and sore throat. Recall Mike Harding's *Walk-on-Deane Blues*: "Woke up this morning, I didn't feel real grand, this knows. Still, duty calls."

Assemble references for book chapter. Lecture on electrochemistry to second year. Have to miss visit by government minister to open UMIST's two new Wolfson units, one being to provide chemistry and chemical engineering services to industry. Deal with mail, mark essay. Post-prandial coffee with visiting lecturer from the fire research station; speculate about fire precautions in Channel tunnel plans.

Discuss with chairman of departmental library committee our strategy for Wednesday's meeting about library development: UMIST has £3.8 million from the UGC for extension, but plans to improve main library resource will affect departmental libraries. Write notes for meeting. Regular session with professorial colleagues, then lunch of department's advisory group.

Home. Finish off book chapter with references, and mark for indexing. Read service book proofs. Read *THES*; little good news these days, but back page raises a smile as ever.

TUESDAY

Throat improved, breathing now difficult. Review lecture notes on liquid crystals, plan tutorial, then give lecture. Student asks for previous year's results for job interview. Meeting of standing subcommittee of safety and environmental health committee (SEHC): discuss practice evacuation, testing of lifting equipment, accident reports.

Realize research assistant on joint opto-electronics research scheme (JOERS) grant needs appointment renewed pronto; reassure him lest he has realized it too.

Prepare welcoming talk for UCCA applicants. Insert joke about today's fine sunny weather being what everyone expects of Manchester; applicants not amused - was it that feeble, are they too terrified, or aren't professors supposed to attempt funniness? Academic board (analogous to Senate): present first report of SEHC as vice chairman (chairman is my member of council so not on academic board); no questions: relief.

Look out marks for student, tidy library papers. Post book chapter in haste (after discover it is the second received out of 16). Phone old friend visiting Cambridge from Canada to arrange his trip to Manchester via Edinburgh for a colloquium.

WEDNESDAY

Fouring rain; rare recently. Breakfast: radio reports an escape of sulphur trioxide gas in Delhi. Spokesman says it is not poisonous; no, but with water it gives sulphuric acid. Advise children to trust spokesmen only at a safe distance from clouds of white gas.

Tutorial: set test, clarify elementary but tricky bits of chemical kinetics. Coffee: consult librarian re afternoon meeting, discuss sulphur trioxide incident, triviality of quiz show questions on chemistry, marking of test, forthcoming examiners' meeting.

Meet UMIST safety officer for tour of research labs; no nasties, but safety precautions too often regarded

as a hindrance to work rather than as essential professional practice. Mail: French student wants to do research here as alternative to military service. Agree on a brief visit to UMIST; ask colleagues to suggest programme. Lunch: advise colleague on British Council funding for visits to and from Eastern Europe - excellent in my experience. Final discussion re library with chairman of library committee, then attend meeting: long, largely constructive; main aims for enhancing central service agreed, but working party to consider how special departmental needs can best be met.

THURSDAY

Talk about early retirement scheme with colleague on train. As salaries fall relative to inflation, the backdated inflation-linked pensionable salary strengthens the incentive to go before the pension becomes devalued too. Begin report to staff on library meeting. Tutorial to third year on nonlinear optics and organic metals. One student stays to ask about a project I have offered for next term.

Coffee: talk to laboratory superintendent re stores operation and safety inspection; to assistant director of laboratories re projects, postgraduate supervision, and afternoon meeting. Lecture on liquid crystals; afterwards explain to a student that he hadn't missed some deep point - there wasn't one. Mail, sign chits.

Lunch: discuss external examiners, implications of the Data Protection Act for processing exam results, prospects of improved SERC funding for molecular electronics via special initiatives. Meeting re promotions to reader: recall suggestion that one former professor should have been writer rather than reader, so prolific was his output.

Mail, incoming and outgoing, decisions on who and what goes where. Collect together the manuscripts of a paper, draft covering note to editor. Read over notes for morning lecture.

FRIDAY

Compare administrative procedures in different departments with electrical engineer on train. Lecture on electrochemistry; why so few students? Recall student chemical society party was last night.

Attend "Manoil" launch, seeking funding to build a demonstration plant to scale up our department's development of a continuous method to produce a high-quality oil from cellulose waste (as in domestic refuse, straw, or sugar-cane residues). Economic prospects estimated at 34 per cent return on a 200-ton-per-day straw plant based in East Anglia.

This process could also transform the Third World, which has the weather, the green plants and the manpower, and needs cheap oil available in each small locality. Development hitherto imaginatively funded by the Greater Manchester Council soon to be no more. Talk to visitors and staff over refreshments.

See JOERS research assistant re meeting; current results falling nicely into place. Visit from director of estates and security officer re insurance aspects of issue of keys to staff for out-of-hours access. Also discuss scheme to declare plant safe before maintenance is performed; discover a commonsense approach is possible, dispelling fears that we would have to shut off all fume cupboards and stop work completely.

Return essays and marked tests to students in the lab; all there at 4pm on a Friday - penance after party? Ask colleague to take over co-ordination of our joint course with Management Sciences; discuss its future direction.

Night hike with Scouts: for the first time in weeks we can see the constellations I have been trying to teach about, plus a meteor as a bonus.

SATURDAY

Up late. Start to notify author about favourable referee's report on paper for the *Journal of Molecular Electronics*, then realize another referee's report is missing; write reminder to phone on Monday. Resume normal (ie non-scientific) weekend activities.

R.W. Munn

The author is professor of chemical physics and head of the chemistry department at UMIST.

Gerry sets pace for aid to unit

Liverpool pop singer Gerry Marsden, who recorded the football song "You'll Never Walk Alone", tries on an arm bandage which has been developed by the Plastic Surgery and Burns Research Unit at the University of Bradford.

The unit was launched last year with money raised by the record for treatment of the victims of the fire at Bradford's football ground. Looking on are physiotherapists, plastic surgeons and members of the nursing staff who are involved in work at the unit.

Further donations will enable students to widen their experience by visits to burns units in other parts of the world.



Cash crisis plan for overseas students

by David Jobbins

Steps aimed at speedier and more coherent aid for overseas students trapped in financial or legal crises by events in their home countries are to be put to ministers soon.

The frequency and size of crises affecting national groups studying in Britain is increasing, partly because of the move towards full cost fees which makes the potential debt liabilities greater, according to the UK Council on Overseas Student Affairs, which this week published the report of a working party on the issue.

But the underlying cause is the mounting international debt crisis and greater political instability overseas. And, according to the report, the absence of agreed ground rules governing institutional policies and the response of immigration, welfare and employment officials leads to a patchy and ad hoc reaction.

The report recommends that institutions:

- develop a policy including details of available financial help;
- tell students what the consequences of failing to pay are;
- establish a central hardship fund;
- not exclude students from courses or examinations.

Government departments should:

- ensure immigration staff are more civil and understanding;
- instruct Home Office officials not to demand unreasonably high standards of proof from prospective students from crisis groups;
- give overseas students hit by a

temporary lack of funds minimum supplementary benefit entitlement;

- grant access to housing benefits;
- ease restrictions on limited employment.

Many of the recommendations deal with ways of preventing crises by developing widely understood policies for overseas students, and with establishing an early warning system involving aid agencies and Government departments.

The basis for this has existed for some time in the shape of the aid agencies' "red alert" arrangements which are triggered off when any one agency detects a developing pattern of problems affecting national groups.

Mr Rupert Bristow, head of student services at the Polytechnic of the South Bank, who chaired the working party, said: "We are not asking for a blank cheque from Government - or for a contingency fund which will always be there to be taken off the shelf. We want early identification of crises, and after a crisis has arisen for the Government to match non-Governmental funds to assist students with interim help."

Mr Bristow, a former executive secretary of UKCOSA, said it was part and parcel of Government policy to encourage overseas students to establish a safety net for the few people who fall into difficulties.

The report is to be discussed at the next round table meeting which draws together Government departments, institutions and aid agencies.

Leader, back page

Cambridge to exploit site

by Peter Aspdon

Part of Cambridge University's newly acquired Old Addenbrooke's hospital site is to be developed commercially so the university can make good the deficit caused by the purchase.

The university bought the site - the last remaining part of central Cambridge suitable for major development - last February for £5.75 million, more than it expected to pay due to the rise in city property prices associated with the "Cambridge phenomenon", the expansion of small, high technology firms.

That payment, says the report of the senate council, has put the university's land fund into deficit, with a resultant loss of investment income.

"The loss of income is estimated to be about £300,000 a year at present day prices and a major objective of a development plan for the site must be the generation of an equivalent sum

Deal to market research spin-offs

Manchester University has signed a new research agreement worth almost £400,000 with the British Technology Group. The new agreement will provide funding for the university to use its own discretion to assist academics developing inventions or conducting research on projects which may have commercial potential.

Overall financial control will rest with a joint review group comprised of representatives of the BTG and the university. Funds will be set aside

through commercial income from the use of such parts of the site as are not required for university use," the report says.

The southern part of the site will be used to provide new buildings for departments in the university "with especially pressing needs" - biotechnology, pharmacology and biochemistry.

But it is the remainder of the site, nearer the city centre, which has been earmarked for commercial development. Any plans would have to take into account the numerous land-use and conservation constraints imposed because of the presence of buildings of historic interest.

Ideally, the university wants to enter into partnership with a property company or other financial institution, which would allow the university to repossess any buildings for academic use in future years.

annually to obtain market research on ideas or areas of technology thought to have commercial potential.

Currently the university is investigating the potential in such areas as visual image technology, the industrial uses of paper filters, and computerized photography.

For the university, the agreement will break new ground in allowing the allocation of funds for development projects.

New YTS set for take-off

by Carolyn Dempster

The new extended two-year YTS Training Scheme, hailed as "the significant development in education and training since the Education Act 1944," by Manpower Services Commission director Mr Geoffrey Hale is to be launched officially next week.

The massive advertising campaign planned by the MSC aims to show what the two-year scheme is all about, how it will be funded and in what respect it differs from the "old" YTS which was introduced in 1963.

More importantly, it will try to impress on educationists, parents and employers the importance of the scheme in providing vocational education, training, and recognition of achievement by the time he/she is 18.

Under the new scheme, all 16-year-olds who leave full-time education between the end of the spring term of one year and the end of the spring term of the next year will be entitled to two years of training. Those who leave between the end of the summer term of one year and the end of the spring term of the next year will be eligible for one year of training.

Training allowances have been set at £27.50 a week for first year trainees and £35 for second-year participants with an undertaking from the MSC that, in time, the higher rate should be linked to achievement and not completion of the requisite 52 weeks.

One of the features of the scheme is the decision that approved training organizations will be allowed to offer training to young people in an attempt to maintain high standards. Existing managing agents who have contracted to run the two-year YTS will be able to apply for ATO status by April onwards. From 1988, only those organizations who have secured ATO status will be permitted to deliver a scheme.

Criteria for approval include a satisfactory previous record in training sufficient staff resources to train and present a high quality programme, premises and equipment that are accessible, suitable and safe, a positive commitment both to providing opportunities regardless of race, sex, physical or mental disabilities, health and safety, and an ability to effectively monitor and review trainees in accordance with the code of practice.

The new scheme also incorporates a better deal for women, with a package of measures designed to promote equality and combat the stereotyping of a job functions.

It will also see the disappearance of the mode system of place allocation. Under the old scheme, Mode A approved places were mainly on a player basis, Mode B1 places were schemes operated by voluntary organizations local authorities and employers. Mode B2 places involved mainly colleges of further education and employers. Instead, the MSC anticipates 43,500 filled first-year premium places but are planning on the basis of 51,000 approved premium places - intended to meet the needs of young people who require initial work experience away from the pressures of a commercial environment.

RM NIMBUS WINDOWS WIDEN YOUR VIEW

Windows,* the latest software advance from Microsoft, lets you look at computing in a new light - and RM Nimbus, with its brilliant graphics, makes the most of this new facility.

Now you can run MS-DOS packages, several at a time, each in its own window. You can work on your spreadsheet without having to leave your database system, and by using the mouse to point your way around the on-screen icons, you don't have to remember file names or look up operating system commands.

You can create reports by pasting in different data from different packages by different suppliers. For example, you can write text with MicroPro Wordstar* and integrate it with spreadsheet figures from Microsoft Multiplan.* And then illustrate your

report with diagrams and headings in special fonts using facilities provided free with the operating system.

And this is just the beginning. Software vendors are working on a new generation of applications to exploit the outstanding graphics and ease of use made possible by Windows.

This advanced environment needs extra processing power, ultra fast graphics and a large main memory to be effective. With its 8MHz, 80186 processor, up to 1Mb of addressable RAM and custom colour graphics chip, Nimbus makes Windows work for you.

Windows on Nimbus. The natural choice. For further information, contact Research Machines Ltd., Mill Street, Oxford OX2 0BW. Tel: Oxford (0865) 249866.



*Wordstar, Windows and Multiplan are trade marks.

RESEARCH MACHINES
MICROCOMPUTER SYSTEMS

Sitting on the edge

Unusual interest centres on the next occupant of the Committee of Vice-Chancellors and Principals chairmanship. Both the main contenders are from north of Watford: Professor Mark Richmond from Manchester and Sir Edward Parkes from Leeds. Professor Richmond is thought to have the edge, even though Sir Edward is already CVCV vice-chancellor. Sir Edward's successor at the UGC, Sir Peter Swinnerton-Dyer, is thought to be less than enthusiastic about having a gamekeeper turned poacher in the hot seat.

One of the small perks of being the right side of the blurry line. A painting by the contemporary painter Riggby Graham has been presented to Leicester University, to hang in the university library. The painting is of the local stately home, Scraptoft Hall. Scraptoft Hall actually belongs to Leicester Polytechnic.

Lesson in linguistics

The Scottish Office was taking no chances with the new Scottish Secretary, Malcolm Rifkind. His first speech on the Scottish Tertiary Education Advisory Council included a phonetic reminder that STEAC was pronounced "Stee-ack". Mr Rifkind, who was also taking no chances, proceeded to replace every reference after the first with the phrase "the advisory council".

Flying visit...

It was touch and go but despite the simultaneous Westland helicopter shareholders' meeting, British Aerospace chairman Sir Austin Pearce did give out degree and diploma certificates to Kingston Polytechnic graduates last week. Careers in industry were for risk-takers, he said.

...gone away

One ripple effect of the Westland affair and consequent ministerial musical chairs is the postponement of next week's "round table" on overseas students which brings together ministers, representatives from the institutions and aid agencies. "Our man" at the Foreign Office, Mr Tim Eggar, was due to chair it but he will now be abroad, and after considering the possibility of holding it without him, the mandarins decided a diplomatic delay was the only solution.

Football commentator and Edinburgh University rector Archie McPherson told a rally during the AUT strike that this was not his first experience of industrial action. There was a school strike shortly after he became a teacher in Glasgow another strike during his first week at the BBC, and now the fluence was on his university connections. He has decided to offer himself as a research project to Edinburgh's new parapsychology unit.

Golden blunder

Despite their claim to a moral victory, last week's striking university lecturers occasionally failed to hit their institutions where it hurt. At Essex the early morning milk delivery arrived well before the pickets, who were later also unsuccessful in turning back a load of potato crisps. This is civilization saved.

Codes of practice 'don't work'

by Peter Aspdon

Attempts to improve academic standards in universities by issuing codes of good practice are frequently not taken seriously and do not have the desired effect, the National Union of Students claims.

It says the codes are received in universities with a mixture of complacency and hostility and are implemented reluctantly because they represent a criticism of existing standards.

The NUS education officer, Mr Geoffrey Ferres, said there was a strong element of dissatisfaction and scepticism about the actual impact of a code of good practice, such as those produced by the Committee of Vice-Chancellors and Principals' Reynolds committee on academic standards.

"Student unions have felt that their universities have been reluctant to consider implementation of the codes on the basis that it would represent a criticism of existing academic standards. Naturally, student unions can sympathize with this attitude since they usually appreciate the codes for precisely the same reason."

Sit-in wins more time in cuts battle

Sunderland Polytechnic students have been occupying the administration block in protest at a plan to make £500,000 worth of cuts, including closing a hall of residence.

The students ended their occupation on Tuesday, saying the polytechnic agreed to withdraw the cuts plan until a special governors' meeting on January 31. Around 80 students occupied the building for more than five days.

The plan by the polytechnic's management in order to avoid a deficit in 1986/87 was for closing the hall, voluntary job losses among academic and non-academic staff, and smaller measures including shorter library opening hours and changes in catering.

Staff and student unions protested at the governors' meeting which received the cuts plan that they had not been consulted on them. The students have called for the polytechnic to refuse to implement national cuts.

Students and staff were planning to lobby Sunderland's education committee this week. The governors' meeting also received an account of an Audit Commission report saying the polytechnic was not being fully reimbursed for non-advanced courses it ran for the city.

The students' union president, Mr Tim Clegg, said the polytechnic had agreed to publish a paper detailing the cuts, address a meeting of students, avoid redundancies if possible and withdraw all the cuts proposals until the special governors' meeting.

A polytechnic spokesman said that normal process of consultation including those with staff unions were continuing. He refused to confirm or deny other details of the agreement ending the occupation.

Union attacks 'naive' plan to axe colleges

by Olga Wotjas

Scottish Correspondent

The Scottish Education College lecturers' association has condemned proposals to axe three of the present seven colleges as "naive and unwarranted."

The Association of Lecturers in Colleges of Education in Scotland has sent all Scottish MPs its initial response to the report of the Scottish Tertiary Education Advisory Council which it claims reveals inconsistencies.

ALCES says the report's section on the education colleges has an educational strand, praising the colleges' standards, and a non-educational strand "which consists of excuses for the recommendation on closure."

STEAC itself admits the important role of the colleges in maintaining standards in Scottish education, and also that close geographical links between schools and colleges are vital.

ALCES is particularly concerned in-service training, which STEAC says will increase in significance in response to new technology, ALCES adds.

STEAC recommends college closures because of surplus accommodation among the existing seven institutions, and says there is likely to be a peak of just over 5,000 pre-service students in the next decade.

But ALCES criticizes STEAC for ignoring the numbers of teachers on in-service courses, currently some 25,000 and points out that the National Audit

Chancellors and Principals' Reynolds committee on academic standards. The NUS had received numerous complaints from student unions about treatment of the codes of practice. Some had not even been given single copies, or those consulted about the contents. "We even had a complaint of the subject being classed as reserved business," he said.

"Student unions have felt that their universities have been reluctant to consider implementation of the codes on the basis that it would represent a criticism of existing academic standards. Naturally, student unions can sympathize with this attitude since they usually appreciate the codes for precisely the same reason."

He said in a statement to a national seminar on academic standards - one of the pet themes of Sir Keith Joseph, Secretary of State for Education and Science - produced four reports which were circulated to universities.

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ILEA to count cost of rescue

by Carolyn Dempster

A plan is being drawn up by the London Education Authority to count the cost of the rescue of the Greater London Training Board (GLTB) in April.

Mr Neil Fletcher, chairman of ILEA's further and higher education sub-committee confirmed that a series of discussions with GLTB advisers. Any final decision on the ability of the authority to take new contracts in the face of a budget deficit, and should be deferred against other competing bids. However, a decision will be taken fairly soon.

The significance of the decision GLTB lies in the loss of support for some 2,800 London trainees, and support for over 500 people offering locally-based training in the closure of the Denham Youth Training Centre. In addition there is the loss of some 40 training places.

There is slim hope that initial London boroughs, although empowered, will have the resources to take over the GLTB training support network, but Mr Kemp, one of the training advisers, said it is "incredibly difficult" to find a successful resource being brought in from outside the borough.

Training in many respects is in isolation - you cannot import it in isolation," he added.

Since its inception in 1962, the GLTB has been a controversial institution in training, creating a debate on training in London and generating opportunities for minority groups who would not otherwise have had access to training programmes.

Adult training has enjoyed a high priority with 67.5 per cent of the GLTB budget of £7.25 million allocated to it. The training programme includes the Charlton Training Centre, Tower Hamlets Training Forum and the Canning Training Centre - in financial partnership with the European Social Fund and local boroughs.

ILEA's connections with adult vocational education make it the perfect candidate for a take-over of training, these functions - if only to absorb collective expertise, knowledge and contacts of the training staff.

Mr Kemp estimates it would be more than £250,000 to keep the GLTB together in terms of staff costs. The closing of the London projects is a region of £2.5 million per annum. Forward-funding has ensured the continued existence of the Charlton Centre, regarded as one of GLTB's most exciting projects, but too well up for grabs when the million required to keep it going out at the end of the year.

ILEA has been extremely sympathetic to the GLTB's case, but is prepared to make over-optimistic offers, says Mr Fletcher.

"I like to think we would be able to take on some of the GLTB's functions - especially its intelligence gathering, whereby it has been able to develop training and learning needs of education sector and employers. It is authority could certainly benefit from this and would regard it as a priority," he concluded.

Office has said there are no reliable up-to-date figures for college capacity. ALCES quotes Mr James Scott, secretary of the Scottish Education Department, saying that centralization of teacher education would mean costs as well as savings, with travel expenses and away from home student grants.

"What it could not tell you at this stage is whether the savings would outweigh these costs," Mr Scott told the Public Accounts Committee last year.

ALCES says these points contradict that there is no reliable basis for efficiency or cost-effectiveness. It says it will pursue and develop its case during the three month consultation period on STEAC.

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Fellow has third world as his feat

by John O'Leary

Abdullah Zakariya is just back from the West Indies, where he spent Christmas and New Year courtesy of THE THES. The paper has not ventured into the world of prize bingo: this was work, albeit in a desirable location.

Mr Zakariya was the 13th holder of the THES Third World Fellowship, enabling academics or university administrators to travel between developing countries to undertake research. He was chosen from more than 30 applicants to receive the £2,500 award, but a third of the rest found support for their projects from the Association of Commonwealth Universities, which administers the scheme.

Malaysia was this year's destination for a study on the impact of the under-19s in Malaysia. The department of botany on the Mona campus of the University of the West Indies played host for a fortnight as Mr Zakariya examined which trees would thrive in the urban surroundings of Kuala Lumpur and other

Malaysian cities. He was also able to revisit his alma mater of Louisiana State University, where he took a forestry degree and was a postgraduate student a decade ago. And between times, there was the opportunity for some useful research towards his own PhD on the effects of air pollution on trees.

Mr Zakariya was chosen by the Malaysian government after graduation to run a special project on the reclamation of abandoned paddy fields. The work was successful and Mr Zakariya moved back into academia on the staff of the forestry management department at Malaysia's University of Agriculture.

His specialism of urban forestry made him a natural candidate for involvement in the government's tree planting effort.

"With a month's leave of absence at his disposal, he set out to use the award to travel as widely as possible, visiting several institutions in Britain on his way to Jamaica and laying plans to go to Haiti and Trinidad if time and money permitted.

While Replan will now continue at least until December 1988, annual reviews will take place after that date. "Under this arrangement, the Replan programme will be assured of a three-year planning horizon for as long as the annual reviews suggest that a continuing need for the programme can be foreseen," Mr Walden said.

Replan has been jointly funded by the DES and the Welsh Office, with the Manpower Services Commission assisting with the cost of some projects.

This may have satisfied the expectations of young students, but post-graduates said some staff failed to use the students' knowledge, maturity and experience to support their teaching, the report says.

Most courses were heavily timetable, with little time for private study, informal consultation, or small group tutorial work, it adds. There was little emphasis on developing teaching skills, or other educational skills such as assessment and counselling.

The inspectors say they were impressed by the students' courtesy and interest in their work, but add that they seemed to have little inclination to be involved in college life, with a very low level of extracurricular activity.

This may be the result of heavy timetables, "inadequate and unattractive communal areas", or the imbalance between the sexes, with female students "very much in the majority", the report speculates.

Dr Geoffrey Richardson, the college's principal, had implemented "with energy and determination" many changes outlined in successive development plans.

But the need for curricular and organizational changes advocated by

'Britain is generous' claim

by David Jobbins

Britain is "much more generous" to its students than other developed countries, Sir Keith Joseph, Secretary of State for Education and Science, said this week.

He gave MPs comparisons between the UK and seven other nations including West Germany and the United States as anger grew at the pre-Christmas announcement of a 2 per cent rise in grants for 1986/87 and the threatened loss of welfare benefits.

Sir Keith told the Commons: "We spend on average between three and five times as much per student as is spent in the Netherlands and West Germany, and much more still compared to Denmark, France and Italy."

According to Unesco figures quoted by Sir Keith, the UK spends a significantly higher proportion of its gross national product on student support than other "major developed countries".

Ms Vicki Phillips, welfare vice-president of the National Union of Students, agreed that in many ways the British system was comparatively generous. "But this is something to be proud of rather than an excuse to go round chopping bits off it," she said.

Leaders of the National Union of Students have secured a meeting with social security minister Mr Tony Newton to discuss Government plans to restrict students' rights to social security and housing benefits.

It is the first time a minister from the Department of Health and Social Security has agreed to talk directly to students about the implications of the Fowler White Paper. In the autumn, the department referred NUS to the Department of Education and Science, but ministers there were prepared

Project for jobless wins extension

by Maggie Richards

A programme of education for unemployed adults has been given a new lease of life by the Department of Education and Science. The Replan project, which started in March 1984, has been extended for a further two years.

Currently 80 local education authorities are receiving funding from the DES for Replan schemes, and a team of advisory field officers has been appointed to oversee development of the programme throughout England and Wales.

Announcing the two-year extension, Mr George Walden, under-secretary for higher education, said the DES had conducted a review of Replan's work to date, and was satisfied the programme had provided valuable support in developing education for the unemployed, and in encouraging collaboration between educational institutions and the various agencies involved.

While Replan will now continue at least until December 1988, annual reviews will take place after that date. "Under this arrangement, the Replan programme will be assured of a three-year planning horizon for as long as the annual reviews suggest that a continuing need for the programme can be foreseen," Mr Walden said.

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But the need for curricular and organizational changes advocated by

only to deal with the grants regulations and not the issue of the loss of benefits.

Student leaders and opposition MPs regard the combination of the 2 per cent grant increase for 1986/87 and the White Paper proposals as a fundamental change in Government policy which is being ushered in without full debate in the absence of the DES's Green Paper on student support.

The meeting with Mr Newton is scheduled for February 20, the week after NUS sends a mass lobby of Parliament which it hopes will be addressed both by Mr Neil Kinnock, leader of the Labour Party, and Mr David Steel, leader of the Liberal Party.

In the build-up to the lobby and a

More Protestants go to university

A slightly higher proportion of Protestant school-leavers in Northern Ireland go to university than Roman Catholics, but Catholics are more likely to enrol in polytechnics. Between 1979 and 1983, 13.9 per cent of Protestants entered higher education, compared to 12.9 per cent of Catholics.

Protestants, however, were twice as likely to go to an institution of higher education in Britain (35 per cent) than Catholics (18 per cent) - of whom 76.4 per cent opted for institutions in Northern Ireland, as against 63 per cent of Protestants.

These are some of the findings to emerge from a survey by Dr Bob Osborne of the University of Ulster published in the 1985 annual report of the Fair Employment Agency for Northern Ireland.

Royal degree

Oxford University is to confer the degree of doctor of civil law by diploma on King Juan Carlos I of Spain, during his state visit in April. Degrees by diploma are the equivalent of honorary degrees, which are awarded to members of royal families and heads of state.

Medical study

The Advisory Council for Applied Research and Development is to make a study of the medical equipment industry, now worth about £1 billion a year and likely to benefit considerably over the next decade from academic work in medical imaging techniques.

Dundee election

Tam Dalyell, Labour MP for Linlithgow, Malcolm Bruce, Liberal MP for Gordon, Andrew Welsh, the provost of Angus District Council, and Graeham Philip, a businessman, have been nominated for the rectorship of Dundee University, with the elections taking place on February 7.

Property diploma

A four-year diploma course to be introduced by the College of Estate Management in September will exempt students from taking the Royal Institution of Chartered Surveyors' professional examinations, and open the way for a more practically oriented education in the property market and construction industry.

Business views

The search is on for 21 of the United Kingdom's brightest 21-year-olds to give their views on the course British business should take to put the country back on top in the international economic league.

The competition, which carries prizes totalling £15,000, has been launched by the Confederation of British Industry to mark its 21st year and Industry Year 1986.

Electrical awards

About £25,000 in scholarships and awards is on offer to electrical engineering students from the Institute of Electrical Engineers



Policy of unhappy families

When the Conservatives included higher education under the heading of "The Family", students and their parents could have guessed what was in store. In fact, at the National Union of Students we did guess. That's why we ran the "Claim 11" campaign - to urge students to take up the benefits that were available to supplement their rapidly shrinking grants.

Norman Fowler's White Paper on social security reform has confirmed his intention to remove students completely from entitlement to welfare benefits. The problem for students is that Mr Fowler was working on the assumption that Sir Keith Joseph was to carry out a parallel review of student grants.

Thanks to Sir Keith's inability to keep his word on the matter we are stuck with a grant worth only four-fifths of its 1979 value and - unlike every other section of society - no safety net to catch those in real hardship. Not that the Government sees it that way. In their view, there is a very flexible safety net - parents.

But parents simply cannot (and will not) continue to be regarded as a bottomless pit to draw on because the Government's policy on student finance is in tatters. Already, many do not make up their contributions, and Sir Keith's memory seems surprisingly short on what happened last time he tried to fleece parents in respect of student off-setting. Then it was the better off who would have suffered: this time it's everyone. Parents have reacted by flooding the NUS with requests for detailed information and arguments.

The conspiracy theorists among us - and with Sir Keith who can blame them? - see all this as yet another duplicitous attempt to make student loans seem politically acceptable by holding down grants until desperation sets in.

The scale of the problem is simple to evaluate. Students in London stand to lose up to £1,185, while out of London that figure stands at £840 per year. However, the repercussions of this loss of income seem to have been ignored. The long-term effect will be that students will be unable to afford hall and private sector rents away from home (unless, of course, the Government is prepared to legislate on rent regulation), and with existing students possibly forced to drop out, we could see an adverse effect on the viability of courses at certain institutions, especially those in high rent areas. We would have the novel situation of a contraction in higher education on a demand-fall, rather than supply-led basis.

But all this speculation is to accept that the impossible is possible; the blatantly unfair, justifiable. The proposals will not go through, because students and parents will kick up an unholy row (in the advancing shadow of a general election) which will make the last student grant saga seem tame by comparison. And this time there will be no cop out of "it's only the wealthy few who'll suffer". This time it's everyone who attends or aspires to attend higher education, and their parents who are expected to foot even more of the bill.

It's not for nothing that the slogan of this campaign is "No chance, Fowler". If his plans were to go through, many students would have just that - no chance.

Vicky Phillips

The author is Vice President, Welfare, of the National Union of Students.

Switch of venue to beat S Africa ban

by David Jobbins

International archaeologists remain deeply split over a ban on South African participation in this year's World Archaeological Congress after a decision to hold what will inevitably be seen as a rival event in West Germany.

British organizers of the congress, due to be held at Southampton University in September, withdrew invitations to South African archaeologists "under duress" in the face of opposition from the Association of University Teachers at Southampton, its student union and the city council.

African, East European and other third world participants also threatened to boycott the congress if South Africa was present.

But many American academics warned they could not come if the ban remained, and they were supported by distinguished British academics fearful of the implications for academic freedom.

Now the International Union of Prehistoric and Protohistoric Sciences has decided to switch its annual meeting away from the congress and hold it in Mainz, West Germany. At a crucial

meeting in Paris last week, it emerged that UISPP's mainstream delegations - France, West Germany, The Netherlands, Belgium, Spain and Switzerland - were intent on pulling out of the congress if the ban remained.

But Professor Peter Ucko, who has masterminded the plans for the congress at his own University of Southampton, said this week: "If it is true that the Mainz congress will have South Africans present, I presume no one from the third world will attend."

But the UISPP's decision does not necessarily mean the total eclipse of the congress in Britain.

The vice-chancellor of Southampton University, Dr Gordon Higginson, has given his personal backing to the congress executive's move to ban South African participation in the conference.

He said the hasty decision had not been discussed formally in the university, so there was no official institutional view on the matter.

But he added in a letter to the *Times*: "My personal opinion, and this is purely a matter of conscience, is that the executive committee took the right decision, in so far as any decision could be 'right' in this case."



Back to the land: North East London Polytechnic's environmental research unit is carrying out a microbiological survey of a land near Colchester, to see if it is suitable for a country park. Researchers will look at the topsoil on Martin's Farm, St Oyston, what trees and plants would best grow there.

British are bottom of dons' pay league

by Donald Fields

British university staff are virtually the worst-paid of any in 10 countries surveyed for an international comparison by Professor Christopher Cronström, of the Finnish Professors Union.

While there are large gaps in the survey because of national peculiarities and a varying response to Professor Cronström's questionnaire, it is evident that academics in the USA are well ahead of all others in terms of gross salaries. Some Canadian approaches 90 per cent of American rates, but nobody else is within halting distance.

Britain was bottom of eight countries reporting maximum salaries for lecturers, penultimate among six notifying maxima for readers, and fifth of seven quoting average pay for professors. Besides those already mentioned, the countries listed in whole or part were Australia, Denmark, Finland, France, Ireland, Norway and Sweden.

The discrepancy is most glaring when British salaries are set against those in the USA. (Professor Cronström has converted the normal nine-

month salary for American academics into a commensurate rate over a 12-month period.) At exchange rates prevailing just before Christmas, a lecturer on maximum pay earns \$2,491 a month in the USA and \$1,773 in Britain.

Professors were assessed as earning a minimum of \$3,150 in the USA and \$2,147 in Britain, with respective average scales of \$3,799 and \$2,523. The deterioration of British conditions was underlined by the fact that lecturers, readers and professors in Ireland all enjoyed higher salaries.

Australia was relatively well placed for professors and their associates, but was near the bottom for both lecturers and assistants. Relatively speaking, it displayed the widest gap between highest and lowest grades, with Sweden and Norway having the narrowest.

Professor Cronström warns that a meaningful comparison of salaries must include the effects of taxation, the cost of living and local circumstances in each country. But there is no doubt from his findings that British university staff have considerable grounds for being aggrieved.

Awards rules changed

Female students at Queen's University, Belfast, are shortly to be eligible for scholarships and medals which, awarded under the terms of long-established trusts, have previously applied specifically to men.

By invoking the Sex Discrimination Order (Northern Ireland) 1976, the university has made history in compelling the Charities Branch of the Northern Ireland Department of Finance, which administers the trusts, to change the terms of the wills - which in some cases date from 1898.

A public announcement of the department's decision, as required by law, has been posted for three months to enable possible public objections to be registered.

The scholarships involved are the Richard Havelock Charles travelling scholarship and medals in the faculty of medicine, worth over £1,000 and established during the last 30 years; the Isabella Todd memorial scholarship, an undergraduate scholarship, available alternately in the faculties of science and medicine; the McEwan scholarship, founded in 1908 for the sons of farmers and not confined to any one faculty; and the David Russell Lappin scholarship, worth £300-plus.

Refugee study highlights key areas for aid

International aid agencies helping developing countries to absorb refugees often compete with each other, look after their own interests and generally spread themselves too thinly, it was claimed at a meeting of academics and Government officials.

Pioneering research carried out by field workers at Queen Elizabeth House, Oxford, showed that agencies concentrated on short-term alleviation of immediate problems, at the expense of seeking long-term solutions.

Mr Ahmed Karadawi, deputy commissioner for refugees of the Sudanese government, said Oxford's refugee studies programme, co-ordinated by Dr Barbara Harrell-Bond, had made important contributions to the aid debate. Research showed that conflicts between agencies often alienated local communities and actually prevented the successful settlement of refugees.

The former Prime Minister, Mr Edward Heath, called for the British Government to increase the level of aid to countries with high numbers of refugees, to enable them to tackle the lasting problems which could not be solved by short-term cash donations. Mr Heath was speaking at a meeting of refugee co-ordinators, embassy offi-

cials and academics working in a field which had so far been overlooked, he said.

"The response by this country to the problems in Africa was immediate and obvious, and was achieved by the media - but the real problem is much more long term in nature," he said at the meeting, at the Institute of Commonwealth Studies in London.

Mr Heath paid tribute to the work of Dr Harrell-Bond, whose work was often critical of international aid agencies, but whose criticisms were in the main justified.

"Developing countries dislike the word 'aid' because we are not talking about a temporary thing, it is something which concerns us permanently. The themes which should concern us are development, investment and dealing with people as individuals, to help them lead a normal, productive life in any new home."

Asked why the British Government did not increase its aid programme, Mr Heath replied: "I am not a member of this Government so I cannot answer. It is something over which I have had great arguments with the Government, and I do think we are making some progress."

Call for more vocational qualifications

Britain needs qualifications and standards that have as high a status and profile as "academic" qualifications, *Manpower Services Commission* director Mr Geoffrey Holland has urged.

"The O and A level needs to be balanced by V for vocational and C for competence," he told employers at a Conference of British Industry conference. "And if that is to be achieved, we need an L for leadership from industry and commerce," he added.

Establishing standards to achieve competence was central to the country's survival, well-being and growth, and the reason why the UK failed miserably in comparison to competitors such as Japan and West Germany was because performance always came a poor second to something else.

"The something else - an examination pass - is used as it was never intended to be used, particularly by employers. Qualifications awarded by educational, validating and examining bodies do not necessarily say a thing about vocational competence. There is no direct relationship between the two. There ought to be," he stressed.

As employers determined recruitment practices and set the criteria of expectations of education and training providers, it was up to them to speak up and decide what standards of competence were to be and how they were to be defined, he said.

There were few rewards for achievement and even less recognition of the self-motivated efforts of employees who chose to pursue adult training or retraining programmes. It was time that a "best before" label should be applied to standards of competence in the same way that it is applied to products on supermarket shelves.

Mr Holland said he anticipated four major thrusts as essential to the final report of the Review of Vocational Qualifications group - due to be published in April, if objectives such as comprehensibility, relevance, credibility, accessibility and cost effectiveness were to be delivered.

First, a national body was required to implement a comprehensive system of vocational qualifications; second, a national framework focusing on competence and standards; third, a nationwide system for the assessment and testing of vocational competence for employment; and finally, credible and workable arrangements for Youth Training Scheme certification.

"The revolution in the education and training system upon which we have embarked, collectively and individually, is not just about numbers. We need to put training on the gold standard," Mr Holland concluded.

Green Paper is serious setback, says ILEA

by Karen Gold

The Government's Green Paper on the future of higher education argues for important changes in higher education without willing the means to achieve them, according to the Inner London Education Authority.

The response of ILEA, which contains 12 per cent of public sector higher education in England and Wales, to the Green Paper says the Government has missed an opportunity and caused a serious setback for higher education.

The authority holds up the policies of its own recent advanced further education review, particularly the transitory links proposed for City University and Goldsmiths' College, as a model. The Government should consider its policy of retaining the binary divide between universities and the public sector, and create a unified, diverse and open system, it says.

In particular it should fund the two sides equally; the Government should not be surprised that the public sector is considered inferior when it is unequalled.

ILEA calls for greater commitment to access to higher education, through

student grants and special courses. The Green Paper acknowledges the significance of continuing education, but gives no indication that the Government is prepared to pay for it, it says.

In preaching the need for more links between higher education and industry, the Government shows little understanding of what industry wants or of the existing relationships.

The pressure to increase science and technology graduates at the expense of other subjects ignores industry's needs for a wide range of vocational provision, while the accusation of anti-business snobbery in higher education achievement in London and elsewhere in responding to the needs of industry, commerce and the public sector.

The relationship could be improved if industry's needs could be better articulated, ILEA says. It recommends establishing regional networks by employer organizations and higher education to improve links.

ILEA endorses initiatives put forward by the National Advisory Body - capital equipment, new blood and staff development programmes - which it says the Government has ignored.

Adult body points to good intentions without resources

by Felicity Jones

The National Institute of Adult Continuing Education welcomes the prominence given to the continuing education role of higher education institutions in the Green Paper but fears that pressure on resources may prevent those good intentions from being put into practice.

In its response, the institute fears that provision will remain unco-ordinated and fragmented while "less than adequate funding for higher education will actually have a debilitating effect on present continuing education provision which depends upon healthy undergraduate and research programmes."

It views with alarm the decrease in humanities courses, saying that in its experience, the education of students in best where humanities courses run alongside technical and vocational study.

The suggestion that the Robbins principle should be replaced and stress laid on "intellectual competence, motivation and maturity" for access is welcomed as a step in the right direction by NIACE. But the general thrust of the paper towards narrow vocationalism, taken with the caveat that "the benefit has to be sufficient to justify the cost" gives much concern.

The Government's "better schools" policy might undermine the belief in more places for adult students. Policy-based target figures should be set to accommodate the continued rising demand from mature students and from women in particular, says the institute.

The Green Paper's shift of resources should be replaced by a three-way partnership, with the Government giving support to both programmes and students who cannot meet the full cost.

The institute points out that the commitment to continuing support of liberal adult provision runs counter to recent changes in funding for university extramural departments and Workers' Educational Association districts, which have undermined existing courses.

An extension of provision from the presently popular humanities into the fields of science and technology would need a formula which allowed for greater financial support and stimulus to new courses and rewarded experience.

Meanwhile, the principal of Edinburgh University has said the survival of Britain's universities in their present size and range of subjects is in jeopardy because of Government cuts.

Dr John Burnett, writing in the university's annual report, says the 1984/85 session was an uneasy and increasingly difficult year.

Investigation into 'sexism' AUT angry at prescription for staff cuts

A working party to investigate the curriculum, admissions and policies of Queen's University Belfast, has been established by academic board, at the request of students.

Complaints have been made that some time that women students in philosophy were not being taken into their due in the syllabus and some subjects were geared towards boys. There had also been suggestions of sexism in certain attitudes of the governing bodies.

The working party has initiated detailed fact-finding exercise to establish exactly where sexism exists. A notice is being sent to the publication *Queen's Letter* inviting women to express their views on sexism.

The working party is also being set up to investigate the curriculum, admissions and policies of Queen's University Belfast, at the request of students.

October 1987 to qualify for compensation under early retirement and voluntary severance schemes which applied after the 1981 university cuts. However, the AUT's Scottish regional official, Mr David Bleiman, said the scheme was much more restrictive, since if the university enhanced or varied the terms offered, any UGC funding would be lost.

Ms Diana Warwick, AUT general secretary, has called the starting date of the scheme a "disastrous mistake" with every prospect of 11 tenured staff still being in post in 1989.

The UGC is preventing Heriot-Watt making "sensible arrangements" of mutual benefit to staff and the university, she says in a letter to UGC chairman Sir Peter Swinnerton-Dyer.

The pharmacy closure bears no similarity to the 1981 cuts when closures were on the basis of financial pressures and internal university initiatives, she adds.

Pharmacy has been a healthy department, strongly supported by the university, with a high demand for places, and an excellent record of graduate employment.

The staff "find themselves in a department which the UGC has insisted should be closed, yet consideration for the people affected seems to be the committee's last thought."

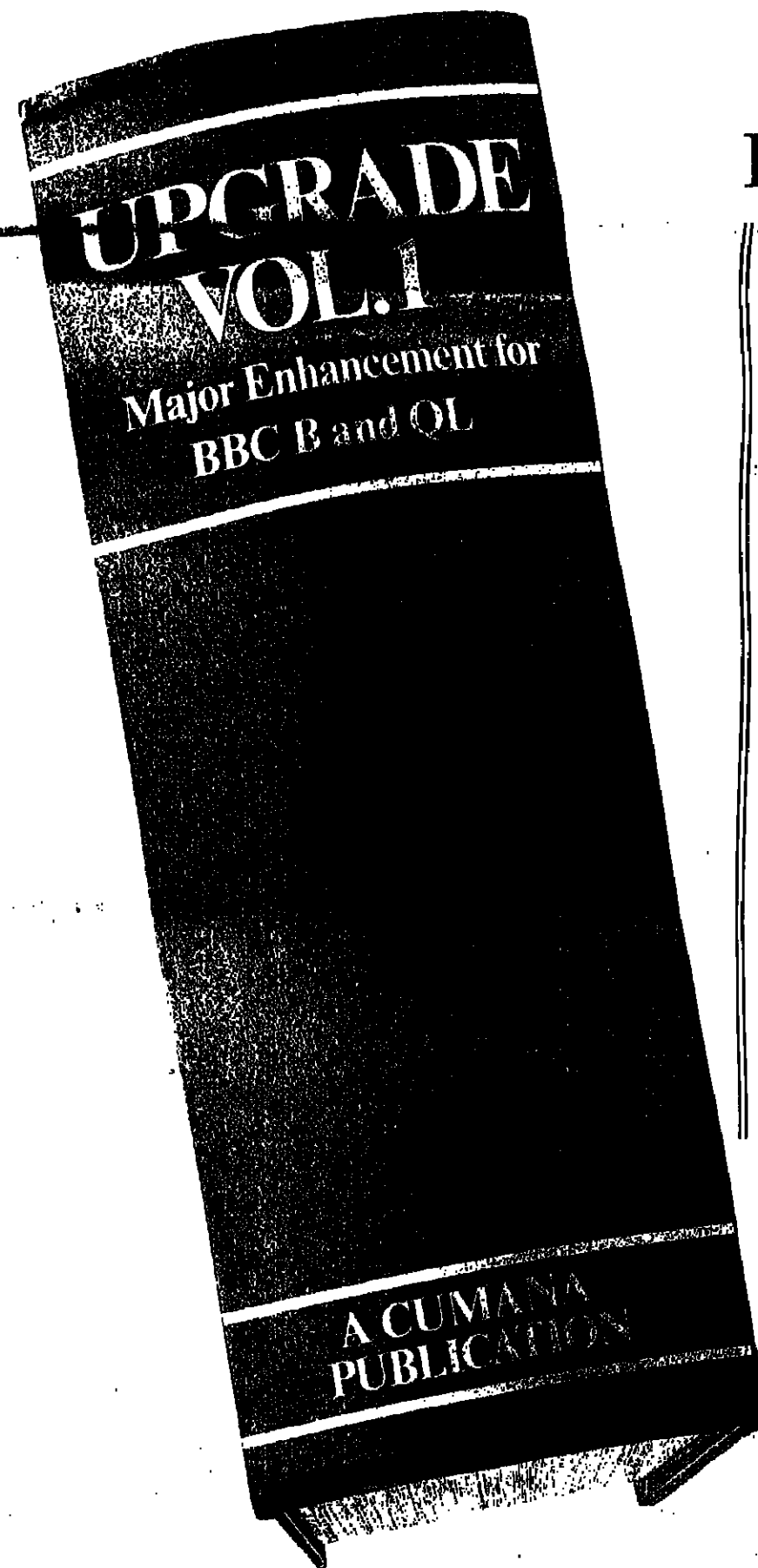
However, Sir Peter says in his reply that the university suggested October 1987 as the first year with no new student intake. If staff left before then, the university would have to replace them, which might not be easy.

"Of course the conditions which we have made constrain the university's scope for action, but I do not accept that they prevent it from honouring its legal and moral responsibilities to its staff," he writes.

Whatever the justice of the claims about the department's record, they seem irrelevant to the determination of fair and appropriate levels of compensation, Sir Peter adds, "unless, that is, they point to the ready re-employability of the staff involved, which of course would argue against rather than for higher compensation levels."

But Mr Bleiman said it was "managerialism gone mad" if the UGC refused the arrangement of staff leaving before October 1987, but covering lectures for a period after that.

"We are convinced the interests of existing students can be fully protected, for example through the recruitment of temporary staff, teaching assistance from members redeployed in the region, and even assistance from other institutions," he said.



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overseas news



Not much of a life with Brian

Mulroney \$2 billion. Universities 0. During the 1984 federal election campaign, the Tories promised they would maintain transfer payments to the provinces for post-secondary education (PSE) and health care. Granted under federal established programme financing (EPF) legislation, the "feds" consider that about 31 per cent of the transfer payments should be going to post-secondary institutions. The provinces, however, argue correctly that the legislation does not impose specific spending requirements for the individual programmes covered by EPF.

At the recent federal provincial first minister's conference, premier Brian Mulroney stuck to his government's decision to cut \$6 billion from the transfer payments between 1986 and 1990 a little less than \$2 billion of this would be earmarked for PSE according to the federal interpretation of EPF. This reduction is the third in a series of unilateral federal cuts. The important fact is not the party label but the pull of current federal-provincial politics.

In 1982 the then Liberal federal government abolished the EPF's revenue guarantee to the provinces. By 1990-91 the cumulative effect of this action will have cost the provinces nearly \$10 billion.

In "falseness" to the federal government, the provinces have refused to recognize the federal contribution to higher education or involve the federal government in any PSE decisions. Yet the federal government provides 75-80 per cent of the grants provided by provincial governments to cover university operating revenues, and is the major financial contributor to university research.

How long can a government afford to spend money over which it exercises not the slightest control and still view itself as responsible?

Over the past decade, every province has reduced the amount of provincially raised tax dollars it commits to universities. This has simply added to the federal government's frustration.

Unfortunately, as the two levels of government have blamed each other for cutting funding, the universities have been gradually starved of cash until now they are in a state of crisis. Cuts of some \$2 billion, a third of the budget, are not merely staggering - they will call into question the existence of the Canadian university system.

But the Mulroney government is likely to get away with such massive cuts. First, due to the Tories' campaigning there is widespread paranoia over the size of the deficit. Second, because of the esoteric nature of federal financing of universities through grants to the provinces, the connection between the transfer payments and a university education is not well-understood.

Third, jealous of their constitutional powers, the provinces have insured that the federal role in post-secondary education has been a well-kept secret.

All the publicity about the financial problems has had the paradoxical effect of making the universities very popular with the public. Ironically, many of the provinces now seem willing to negotiate a more realistic deal with the feds, at the very time when the feds seem to be in the grip of deficit fever.

Ron Levesque

The author is associate executive secretary of the Canadian Association of University Teachers.

UN safety initiative under way

The foremost maritime schools of the developing countries have launched a co-operative programme for advanced management training, intended to enhance the profitability of the shipping industry, cut oil and other ship-generated pollution and reduce accidents at sea.

The project is co-ordinated by the United Nations. It is also backed by the World Maritime University which was set up in Malmö, Sweden, for the same purpose in 1983 and by a maritime technology transfer centre for the developing countries established in Halifax, Canada, in 1984.

A permanent system of co-operation linking the principal maritime management training institutions of Africa, Asia and Latin America is being established here in Geneva in a project funded by the UN development programme and run by the secretariat of the UN Conference on Trade and Development. It is to give poor countries the managerial capacity needed to increase their merchant fleets, to develop their seaports along modern, efficient lines and to introduce multimodal transport.

Fast in bid to achieve exit

Dr Radu Rosu, a Romanian mathematician, last week concluded a two week fast which was intended to draw attention to the authorities not allowing him to leave the country. He was offered a visiting post at the Princeton Institute for Advanced Study for one year, beginning last September.

Dr Rosu believes his passport was refused by the Communist Party organization at the University of Bucharest - but no reason has officially been given for not letting him go to the United States.

In the mid-1970s, when Romanian research was reorganized on a utilitarian basis, pure mathematics was virtually stopped. Some 1,000 Romanian mathematicians managed to emigrate and have settled in America, where they now produce an independent Romanian journal on mathematics.

Dr Rosu promises to carry on fighting. "The huge sufferings of the people of Europe in this century have proved that it is a human duty not to accept repression," he said.

The charges against the last two accused in the "Belgrade Seminar" trial, Vladimir Miljanovic and Gordana Jovanovic, have been dropped.

They are now planning to appeal for a complete acquittal on the grounds that they are discredited with the way the Belgrade district court abandoned the procedures.

Since the arrest of the six seminar participants on charges of anti-state conspiracy in May 1984, the attention which the case has attracted abroad has been a constant source of embarrassment to the Yugoslav authorities.

Galway waits for Godard

from John Walshe

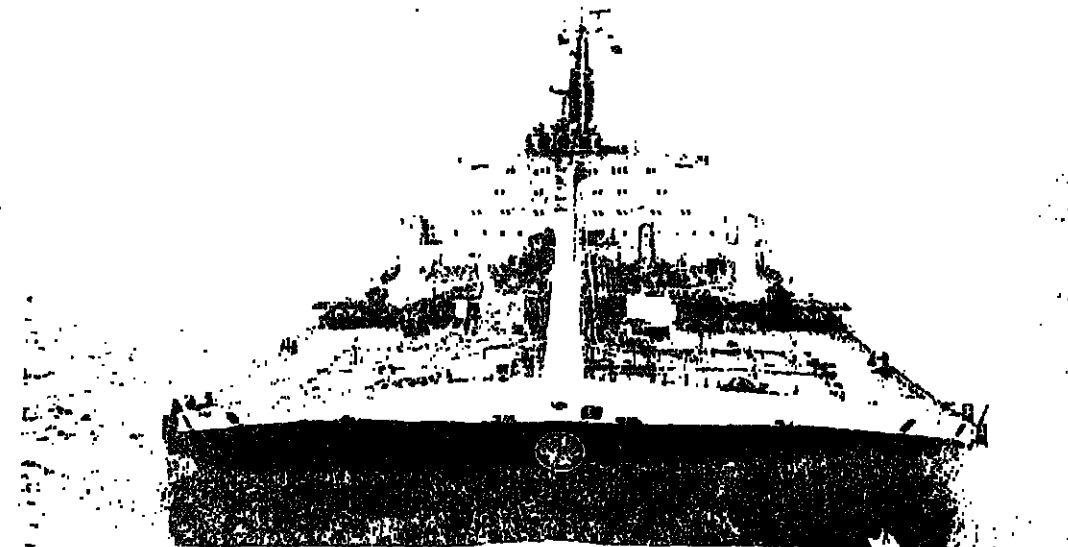
DUBLIN

The authorities at University College, Galway, last week banned the showing of the controversial film *Je Vous Salue Marie* on the campus after protests by Catholic groups who said it was blasphemous and pornographic.

The film by Jean-Luc Godard is a modern day version of the nativity. It depicts the Virgin Mary as a basketball-playing teenager married to Joseph, a taxi driver, and includes a nude scene involving Mary.

The film has been condemned by the Vatican. In Galway a massive prayer vigil was planned and organizers predicted that up to 5,000 people would attend.

The Catholic groups welcomed the



Shipping is set to benefit from the move to strengthen training and cut the loss of life

The project has evolved from a limited co-operation programme in maritime management training involving the Bandari College of Mombasa, Kenya, the Narottam Morjanee Institute of Bombay, India, and the Merchant Marine Schools of Abidjan, Ivory Coast. Since 1980, these institutions have jointly developed five courses in port and shipping management, delivered them to more than 250 managers and designed a guide on the development of new courses and the training of instructors.

The expanded maritime management training programme for the developing regions already embraces 16 major training institutions and 30 others have applied to join. The institutions involved in the programme offer 19 courses on a regular basis delivered in English, French, Spanish and Portuguese. Many developing countries are now increasing their merchant fleets and port facilities to reduce their vulnerability to fluctuations in world freight charges. The Asia/Pacific region, for example, is in the midst

of a gigantic construction project projected well into the next decade for the erection of new port development of existing or to accommodate modern ship cargo handling technology. Before the present expansion, a survey showed a shortage of more than 60,000 managers. At present, over 1,000 are lost at sea every year together with hundreds of vessels. And the total loss due to the continued deterioration of the marine environment is beyond measure.

Hefty pay rise aimed at blocking the brain drain

by Donald Fields

In a surprise move Swedish university staff have been given hefty pay increases, many of them backdated to last summer. The monthly basic salary for a professor has been boosted by more than 20 per cent to 16,500 kronor (21,500), rising to 22,000 kronor (22,000), for those with long service or special qualifications. But much of the apparent increase is wiped out by 70 per cent income tax margins.

Lecturers, until recently earning about two-thirds of professorial rates, are receiving less sizable increases.

The sudden boost for professors, who have threatened strike action to improve their conditions, stems from growing recognition that high salaries are needed to curb a brain drain from universities to other countries or the industry sector in Sweden itself.

The flexibility of the new system is novel in Sweden, and is aimed at curbing the defection of university staff. According to the government budget submitted on January 10, expenditure on higher education and research in Sweden in 1986-87, will be 6.4 per cent up on the previous fiscal year.

Given the present inflation rate, this implies a virtual standstill but is more than the projected 0.6 per cent increase in the total budget. In all, government outlays on the 33 institutions designated universities and

high schools, and their associated research efforts, will total 7,493 million kronor (\$681 million) representing 18.1 per cent of the education department's appropriations and 2.2 per cent of the entire central government budget.

With the government committed to 2 per cent annual reductions in real expenditure until the end of the decade, education is faring relatively better than almost any other field. Even so, there is bound to be disappointment among university staff and students, who consider themselves grossly underpaid and under subsidised.

Official overall strategy is to bring the share of fiscal deficit to gross national product down from the record 13 per cent of 1982/83 to 5.2 per cent in 1986/87. This entails considerable belt tightening.

Budgetary requirements for higher education include quality improvements in the training of civil engineers, better opportunities for specialist studies in the humanities, the inauguration of arts courses at the University of Umea, implementation of a plan to build a health university at Linköping, new equipment procurements for technical education, and local courses in data technology and electronics for 320 new students.

Bankers put loans in danger

from William Norris

WASHINGTON Student loans in the United States are under threat from the Reagan budget-balancing act. The Rudman budget-balancing act now faces a new danger from the responsible for making the loans who are threatening to withdraw services.

Participation in the student loan scheme has been profitable for banks. Though students pay only 8 per cent interest on their loans, the banks get a further 2.5 per cent federal subsidy.

There is a reluctance to do figures, but the Consumer Bankers Association has estimated that members are making about 0.2 cent on their student loan portfolio slightly less than from normal or loans.

When Congress moved to compel the banks to pay out on instalments rather than one lump there were anxious cries for banks that their costs would be increased.

When further measures were used to reduce the amount paid by banks and to require more compensation on student loans, the screams of protest were fiercer. Legislators were forced to pull out of the

bankers' aid. But Congressional aid, unsure just how much they were making, point to the extensive and marketing gimmicks to encourage students to take the loans.

Said one: "If this programme is such a good deal for banks, why wouldn't have to pay \$200 million to come up with the money to how difficult this reduction is."

For their part, the banks' sophisticated systems needed to administer loans to students who frequently and often request payments to be rescheduled. The less of the advantages of the guarantee that the loans will be paid off, and the benefits they get from the student's business after graduation.

A general boycott by the banks, unlikely, but they may become selective, making loans only to students who already have

from William Norris

WASHINGTON

There has been a dramatic decline in the number of United States university students who intend making their careers in the computer industry. A survey among the 1985 intake of college freshmen reveals that there has been a 50 per cent decline in those who want to be computer programmers or analysts since 1983, when 8.8 per cent expressed the preference. Last year the figure was 6.1 per cent.

Interest in careers in engineering has also fallen, though less severely. It is down to 10 per cent of undergraduates, from a high of 12 per cent in 1982. "This declining interest in technological careers stands in stark contrast to the growing national concern for increased technological training and technological capacity in the American workforce," the report comments gloomily.

The reasons are unknown, but some experts suggest that recent reported troubles in the American computer industry may be responsible. The drop comes at a time, however, when computer use and instruction in secondary schools has continued to grow rapidly. There are now estimated to be a million computers in the schools, four times as many as in 1983.

Space research 'is threat' to university funding

from David Dickson

PARIS

A top advisory committee has warned the French government that its commitment to a significant increase in funding for space projects could undermine efforts to meet other objectives - including the promised expansion of fundamental research in universities - outlined in a three-year research law passed by the National Assembly last summer.

The warning has come from the Conseil Supérieur de la Recherche et de la Technologie, whose 40 members include scientists, industrialists, and representatives of both universities and trade unions.

The government has proposed increasing its total spending on research and development by a 8 per cent next year, a real growth of 4 per cent above the expected rate of inflation. However a substantial proportion of this increase is accounted for by support for what are known as Programmes of Technological Development (PDT).

In particular, support for aeronautics and space research is planned to grow by 33 per cent to a total of 1,943

million francs (£175 million). Much of this is accounted for by the government's commitment to several new space programmes, including the development of engines for a new Ariane space station, and the "spaceplane" Hermes. Commenting on the overall figures, the advisory council says that it is "a good budget under current circumstances", given that several other ministries have seen their funds considerably reduced.

However, it adds that, since each of the commitments in the space field is likely to be long-term, the budget increases they require cannot be regarded as merely a temporary peak, but will have a prolonged impact on the general distribution of research funds. This result, it says, appears to be "in disagreement" with some of the other broad commitments made in the new three-year research law and could well make some of the other objectives outlined in the law unattainable.

Among the priorities which might be threatened are the need to provide substantial funds for the purchase of new equipment for both university and government research laboratories, and the creation of new research posts in both sectors.

Social science school draws big names to West Indies

A new international graduate school in social sciences has begun operations at the Mona campus of the University of the West Indies in Jamaica. The Consortium Graduate School was first proposed in 1980 at a UNESCO meeting in Barbados that looked at needs and priorities for the social sciences in the English-speaking Caribbean and Surinam.

UNESCO, the Commonwealth Fund for Technical Co-operation, the Ford Foundation, the United Nations Development Fund and the Canadian International Development Research Center have provided finance, administrative support, and fellowships to enable a group of internationally recognized scholars to participate in the teaching and research work planned for the school.

Accommodation has been provided by the UWI at Mona, some of whose staff will be teaching in the programme, along with colleagues

from the University of Guyana, York University, the University of Chicago, Stanford and Cambridge universities, under the direction of Professor R. T. Smith.

It is expected that the university in Surinam will participate at a later date. A group of 10 students from across the Caribbean has been selected for the first two-year multidisciplinary programme under the MSC regulations of the UWI.

Besides normal coursework and research, the consortium is holding a year-long seminar, re-examining the assumptions underlying research on Caribbean societies and their problems.

Teaching staff in the faculty of social sciences have been overwhelmed by massive student numbers while research topics, with the exception of public opinion polls and a flourishing women's studies group have not in general caught the popular or academic imagination.

Exchange scheme under way

The Italian parliament has passed a series of modifications and additions to a law of 1980 which substantially reorganized an extremely complex and outdated situation in university teaching.

The law "permits" agreements between Italian and foreign universities for joint teaching, research, and study programmes, as well as for "exchanges in the use of technical-scientific

apparatuses of particular complexity".

Any such project will have to be authorized by a decree from the education ministry according to standards yet to be established by the ministry. In these proceedings the ministry will be acting in conjunction with the Treasury and foreign ministry. The authorizing decrees will also determine the amount allocated to each project from ministerial funds.

overseas news

Students more business-minded as computing loses ground

teaching - up from 5.5 per cent last year to 6.2 per cent in the current poll. This figure, still a long way from the high of 20 per cent in the late 1960s, conceals a great disparity between the sexes. Some 9.5 per cent of female students said they would like to teach in elementary or secondary schools - only 2 per cent of the men.

Politically, the students continue to show an increasing trend towards the left - a move which has been growing, though slowly, ever since the Reagan administration came to power in 1981. Though only about 22 per cent describe themselves as liberals (against 21 per cent conservatives and 56 per cent middle of the road), there is a massive consensus in favour of disarmament, against increased military spending, and critical of the government for failing to control pollution. More than 70 per cent feel that the wealthy should pay a greater

share of taxes, and a majority support legal abortion.

On a question asked for the first time this year, a surprising 54.2 per cent said they believed that nuclear disarmament was attainable.

One other surprise figure uncovered by the survey: some 26 per cent of freshmen reported that their parents earned between \$50,000 and \$99,999 annually, which was double the number of parents who earned that much in 1984. Those with parental incomes below \$15,000 dropped from 20.7 per cent to 15.9 per cent.

"Considering that there has been relatively little inflation during the past year," said Professor Alexander Astin of UCLA, these data may indicate that the poorest students are finding it increasingly difficult to attend college."

Campaign launched to standardize the chairman's Chinese

by Geoffrey Parkins

China is to launch a nationwide language campaign which aims to make "Putonghua" (otherwise known as Peking Mandarin or standard spoken Chinese) the common spoken language for all Chinese by the year 2000.

Vice premier Wan Li, speaking at last week's national conference on Chinese language - the first for 30 years - urged the newly formed State Commission on Language Planning (which sponsored the conference) to co-operate closely with the State Education Commission in pushing forward the standardization programme and the popularizing of Putonghua among all Chinese people throughout the country.

He told 300 officials, scholars and language workers that standardizing the national language was vitally important to China's modernization, to effective communication within the country and with the outside world. Modernization and standardization of language, said Wan, were closely linked because "language is the foundation of science and civilization". And he severely criticized what he described as the "contagious invention of simplified Chinese characters", which are increasingly used in advertising.

While technically most Chinese employ the same written language, across the country there are simply hundreds of different dialects. For example, in Canton people speak Cantonese (also the dialect of Hong Kong), in Fujian the dialect is Min, in Shanghai Wu is spoken and in Peking (Beijing), Mandarin.

Many of these dialects are mutually intelligible. For instance, the Chinese character for "forest" is pronounced "lin" in Mandarin, "ling" in Min and "lum" in Cantonese. And the variations in tone within and between different dialects further confounds effective communication.

It is thus not hard to imagine the difficulties encountered when an official, businessman or engineer from Peking attempts to communicate with his counterparts in Shanghai or Canton.

The Chinese government's intention

is to unravel this linguistic imbroglio by making standard spoken Chinese: the medium of instruction in schools, further and higher education; the sole language of radio, television and films; the daily language in all fields of employment and advertising; and, by generally encouraging Chinese people from all walks of life to adopt standard spoken Chinese as their common language in public places.

It is clearly hoped that the adoption of a common language throughout China will help break down the ethnic, cultural and regional prejudices and

barriers that hinder cooperation between different regions.

But, the task facing the Chinese government is a formidable one, to say the least. Language has always been a sensitive issue with the Chinese, at home and abroad, and other countries in Southern Asia that have recently tried to introduce a common language (eg Malaysia and Singapore) have met with considerable resistance and resentment, and sometimes violent reaction. In the context of language, the Chinese people have proved one of the most resistant to imposed change.

Courses

International Specialist Course

Public relations in higher education

14 - 24 September 1986 in Edinburgh

In the United Kingdom, the Committee of Vice-Chancellors and Principals (CVCP) has recently established an Advisory Committee on Public Relations. It has produced a report which suggests changes in how the university system in Britain should present itself and advises on individual university public relations. Higher profiles and more co-ordinated positive signals can be expected.

The British Council has accordingly organized this course to enable policy makers and senior educational administrators from all over the world to share this exploration of public relations in higher education. The course will consist of talks and discussions and demonstrations of current techniques. There will be an emphasis on full participation by those attending.

The course will be directed by Alex Currie, OBE, Secretary to the University of Edinburgh. He will be assisted by Ray Footman, Director of Information and Public Relations Services at the University of Edinburgh.

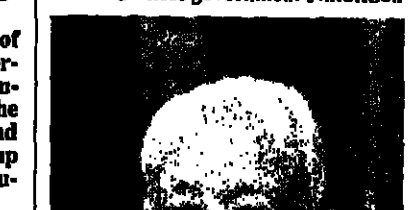
The course is designed for senior academic and administrative staff in universities and other institutions of higher education, including vice-presidents, deans, heads of department, chief administrative officers and other university staff more specifically concerned with public relations activities.

There are vacancies for 30 participants.

Fee £860 Residential only. Participants will be accommodated at Mylne's Court, University of Edinburgh Hall of Residence. Lectures will take place at St. Martin's Hall, Old College.

Further information and application forms are available from British Council Representations Overseas or from Courses Department, The British Council, 65 Davies Street, London W1T 2AA.

The British Council



Vice premier Wan Li: "Language is the foundation"



Eyes to heaven: Myriem Roussel as Godard's Virgin Mary

A gamekeeper turned poacher

Dr Gordon Higginson has just spent his first term as the new vice chancellor of Southampton University after spending six years on the University Grants Committee. Peter Aspdon talked to him about his past and future roles.

Of all the vice chancellors plunged so abruptly into soul-searching by the University Grants Committee's research selectivity exercise, Dr Gordon Higginson, newly arrived at Southampton, had the least cause for complaint.

As the vice chancellor with the most recent experience of that mysterious committee's thoughts and workings, he knew exactly what intentions lay behind the exercise. Not for him the endless accusations that the UGC's demands were excessive or impossible to achieve; he is proud of his six years on the committee since he became a member in 1979, and staunchly defends its recent record.

Take, for example, the much heralded switch to science and technology, which he considers a prime example of the committee working efficiently and speedily, only to be let down by a sluggish Government response. "In my view, the UGC did a really excellent job with the switch. We basically managed to distil all the extra bids we received, grade them according to their relevance, quality and value for money, and then go over them with the Department of Trade and Industry and companies in the space of a couple of months," he says.

"We all looked at the bids independently, but managed to achieve a quite uncanny agreement in assessing their potential. Then, it was so frustrating having to wait for such a long time for the Government to make its announcement. That was not the UGC's fault; we did everything asked of us."

Not surprisingly, the theme of the 1981 cuts cropped up, another difficult exercise which Dr Higginson believes has led to the committee being much maligned.

"I firmly believe we did a good job in 1981. I'm not saying it could not have been done better, but the outline of what we did was sound. The one aspect of it which I really didn't like was that we didn't tell universities enough, but I think that was because the committee was so scared of being accused of being managerial."

If he had issued a firm blueprint of what was to take place, we would have been accused of too much interference, so we decided we weren't going to meddle; that was wrong. The one thing I hope emerges from this latest

exercise is that it will be dealt with more openly, and that people will know how the committee arrives at its decisions.

"I think this must inevitably arise with a more formula-based model for funding. The move towards a more openly selective policy had to come, and it is no bad thing."

Which brings him back to Southampton, and how the university has managed to cope with the May letter and the new style of UGC management. "I haven't been here that long, so I feel absolutely no qualms about blowing my trumpet," he enthuses. "It was not easy following John Roberts, who did a fine job, but I had an unexpectedly good reception when I arrived here." One of his first duties was to sit at the vital senate debate in early October which decided the final form of Southampton's response to the UGC, an occasion he describes as "superb". It's not a word one often associates with senate meetings.

"It absolutely confirmed my belief that the more serious the topic being discussed, the higher the quality of the debate." Almost, he observes, as if university communities need something substantial and substantive to get their teeth into.

To help draft the final response, the university set up a small group in the spring, the members of which were chosen because they knew the institution well. "It was not representative of each subject group, we wanted to avoid that situation," says Dr Higginson.

"What was refreshing was the way people acted in a courageous and selfless way. Those in small departments acknowledged that they were in some danger, not because they were weak but precisely because of their size. The UGC will be bold in the matter. The whole thing is like a game of draughts, but it is up to the committee to make the arrangements on a nationwide scale. Bilateral links will be fortuitous and rare."

He agrees that taking a stronger national perspective runs the risk of trampling all over individual institutions. "But it is up to the UGC subcommittees, who have the expertise, to make sure the shape of each institution is right. That is a difficult but important job over the next few



Dr Higginson in his study, at the Southampton campus.

years." Despite his espousal of the need for action, he is conscious of the traumas facing universities, having had to change direction and fine tune so frequently in recent times, and compares their mobility and flexibility to that of a super-tanker. What so many people forget, he says, is the prominent part in the community played by universities. Issues affecting clinical staff and medical schools, for instance, have a major impact on the health service, and the treatment received by individuals who may have never had any contact with a university.

His optimism over the UGC's capabilities does not blind him to the realities of his own university's financial predicament; his most recent move has been to call for major economies in heating and telephone bills, reflecting,

as he put it, that cuts have to be cut now, before the further funding cuts of the late 1980s even start.

Not that he goes the whole way to the Jarratt view of university management. The DES, he speculates, must have been surprised when the committee on efficiency failed to find any substantial, quantifiable Rayner-type savings. "I don't think there's any doubt that the DES hoped to pay for the whole switch exercise by finding Rayner savings."

"I have reservations about Jarratt—I don't feel it is possible for a vice chancellor to be a chief executive, as his whole role is to persuade rather than instruct—but I would like to see the report implemented as a package; and that means the Government accepting its own responsibility." As an engineer, having spent 20

years as professor at Durham University, Dr Higginson is naturally concerned about the fate of his subject, lamenting the way it has been run down in the last few years—too much mismanagement as usual—but he puts equal priority on social humanities in his new quest.

"One of the keynotes of its response has been to underline the importance of the arts and social sciences. The size of the grant must not get smaller, and we cannot change in balance. That is not selectivity; it is intended to achieve. In fact, one of the university's explicit aims is in accounting and management science, stressing its commitment to social sciences at an unfashionable time."

Dr Higginson is in many ways ideally placed to assess the past and future of university life, and the fact that he finds some optimism in the face of so many gloom forecasts must be encouraging. His views on the Crounham inquiry into the UGC are especially revealing: "People keep trying to describe the kind of body which would replace the UGC but it all sounds very much like we already have. People are often but it is a difficult job. I have tremendous sympathy with the membership."

at all, but the men would realize that Taylor is taking them almost to the level of absurdity. It is only as important as singing at the end of a concert evening," says Dr Williams.

Fortunately, Joan does not choose among these three waltzes, as Ben the Sailor of course, is briefly despondent about her loneliness when Ben returns, but the burletta ends with the title chorus: "To conquer the country's cause each Brinsford endeavour."

It would have been very easy to produce a work like *Aeneas*, Dr Williams admits, but he thinks it a valuable experience to present a 20th century audience with a rambunctious, unsophisticated work which has not been heard for a hundred years.

"Buxom Joan is not a work of genius, but it is well crafted and characteristic of its time and genre. It has a lot of moments for the comic, to appreciate, while still being highly enjoyable for the innocent."

"The idea behind putting it on is to give a little bit of elbow room to what 'academic' music is all about."

The course

Sheffield Polytechnic's part-time BA social studies degree began in 1981. By 1984 169 students had enrolled, most of them from the city or nearby South Yorkshire towns. Most were aged between 25 and 40, around two-thirds were women, and most came from education or social/community work. Very few were from the private sector, manual workers or unemployed.

The degree is modular, with courses including sociology, economics, industrial relations, environmental studies housing and the welfare state. Students attend two evenings a week, three hours an evening. Substantial numbers drop out. There is a foundation year, then two or three immediate years and one or two final years, depending on whether previous qualifications give them exemptions.

The old course moved most students along two pathways: urban studies or welfare and policy. The proposed new course was to add a third: human development.

The people

The course validation committee members were: Mr Roy Bailey (chairman), dean and head of applied social studies, Sheffield Poly; Mr Jack Chatfield, further education adviser, Sheffield City Council; Mr Allan Cochrane, sub-dean research, Open University; Mr Nick Foster, lecturer, business studies and economics, Sheffield Poly; Mr Roger King, assistant director, Humber College of Higher Education; Dr Nigel Lemon, dean of social sciences, Sunderland Poly; Dr Diana Woodward, lecturer, applied social studies, Sheffield Poly; and Dr Robert Cunniff, academic registrar, Sheffield Poly.

The timetable

Wednesday evening: review panel meets privately to discuss papers, issues and process.

Thursday 9.30 to 9.45: panel meets privately for last-minute ideas.

9.45 to 11.45: panel discusses course with 16 course team members.

11.45 to 12.30: panel discusses course, teaching and support facilities with six students.

12.30 to 1.30: panel has lunch with course and senior poly staff and staff.

1.30 to 1.45: private panel discussion of morning conclusions and afternoon plan.

1.45 to 2.45: half of the panel discusses existing course, assessment and staff development with some of course team; other half discusses proposed new course option and staff development with remainder.

2.45 to 3.15: panel discusses resources, general and institutional issues with senior staff including faculty dean and assistant principal.

3.15 to 4.15: panel decides its verdict and major contents of final report, in a meeting twice as long as scheduled.

4.15 to 4.30: panel reports conclusions to senior course team and staff.

The conclusions

All the panel's recommendations had to be considered by the polytechnic's academic board, and then by the CNAA. But on the day, it reached the following conclusions:

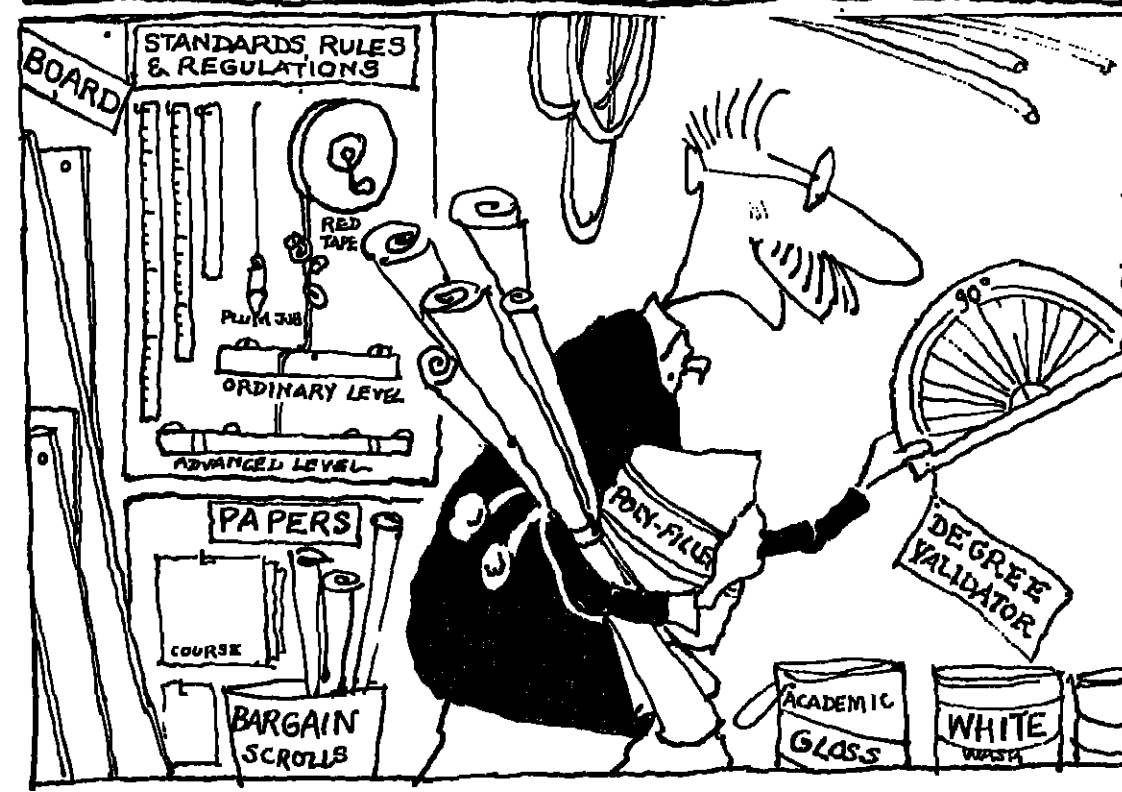
● The part-time BA social studies was reapproved;

● The proposed new human development option was not approved; the course team was told to rewrite it if they wanted to offer it and to improve the balance and relationship between subjects for the intermediate and final years;

● The new sociological methods course must be examined and passed if the course team wanted it to be compulsory for all students;

● The course team should be encouraged to increase the weighting of course work against examinations (currently 30 per cent and 70 per cent) in assessing each unit.

YOUR DIY POLYSTORE



DIY in the making

Sheffield City Polytechnic was the first institution to announce an agreement for do-it-yourself validation under the auspices of the Council for National Academic Awards. In the current experimental year the poly will consider or review around 15 courses. KAREN GOLD went to see how it worked.

Why one should have to list everything, it should be taken on trust that members of staff are aware of the issues and are dealing with them."

Not quite the point of validation, of course. Nor of the argument. It was a tense moment for both sides: the course team was on the defensive; the panel, as their academic peers, entirely unable to enforce its opinion.

They turned to the proposed new human development option. What was the point of it, was it the right level, and would it not damage the modularity of the course? Behind the questions was dissatisfaction with the outline and a suspicion, particularly among the internal panel members, that the option was based as much on staff interests as student ones.

Thrashing out the issue of standards

Discussion was postponed until the afternoon. The panel decided to split into two, for close questioning of those involved in the new option, which confirmed their unhappiness with its balance and structure. The other half returned to discuss the other major change proposed: a compulsory unit on methods of social inquiry.

Two issues here. Were methods better taught separately or in other courses? The course team once defended the latter against the CNAA's worries: it hadn't worked and now they wanted a separate unit. But how to assess it? Would it be compulsory, asked the panel. Yes, said the team. Would students have to pass it? No, said the team.

How would they convince students the course mattered? What if someone never turned up? That would undermine their other coursework, argued the staff unconvincedly. Finally, an interruption from their own side. "If you're caught with your pants down, why don't you admit it?" asked a lecturer. Silence, then laughter, as he added, "I'm trying to be helpful..."

Another course member: "I wouldn't be unhappy if it was compulsory and you had to pass it. But I recognize among my colleagues qualms about making statistics and methods compulsory, because they are afraid they are going to lose some good

students". The argument continued, the panel taking almost no part in it. Whereas the usual question and answer format enabled certain staff to say nothing, this debate—growing out of someone apparently letting the side down—became proof that the course team could and would thrash out issues of standards and mature students among themselves.

Between the meetings with staff, the panel saw students. There were five: three women and two men aged 25 to 50, at various stages of the degree. All were working; most had previous qualifications. Were the staff's assurances about student support justified, they were asked. Yes—"nursed" would be the word. Were women students excluded, did they choose pathways, were their chosen courses available? Were they helped with study skills, what did they think of the 30/70 division of exams/assessment?

Here the students did not back up the staff: they would prefer more weight on coursework, which the staff thought would be too much pressure. But everything else they said backed up the self-justification inherent in the previous course team's session and—as with all corroborating evidence—made an immense difference to the staff's credibility.

That corroboration was not available for the meeting with the polytechnic management, and it showed. Particularly as the students raised a new issue: library provision. Their main problem, they told the panel, was not finding time to work but finding crucial books or the whole library closed.

What about the library, the panel asked poly management, among questions about the institution's attitude to part-time students and modular degrees—generally supportive, it was agreed. "The statement we had from you was that everything was wonderful," said a panel member. "Why were we not told this before?" "I think the librarian is aware of the problem," was the management reply: "Whether he can do anything about it is another matter."

The answer would once not have satisfied the CNAA, known to have threatened institutional approval unless whole libraries were built. It revealed the panel's essential powerlessness to affect resourcing decisions. But the CNAA is not what it was in earlier, richer days. There is undoubtedly now among CNAA

boards and committees an acceptance that spending problems, frequently on libraries, can be raised at visits, but with sympathy, not sanctions. After all, the people you are visiting... could be visiting you next week.

The other problem arose from the panel chairman's position as a dean, a senior polytechnic manager in a faculty contributing to the degree. That never prevented him—nor the other internal panel members, regularly harder-hitting than their external colleagues—from asking awkward questions.

But it affected the answers. They came back prefaced: "As you know, Roy..." At the end of the session, the most senior manager there asked for a word with Bailey, and the two of them left the room, heads together. It was, the panel agreed, the most difficult and least satisfactory session of the day.

Their recommendations were reached quickly. If the course team wanted compulsory methods, they must have compulsory examining. If they wanted a human development option it must be rewritten. Then came detailed debate on their report: here a committee which had needed an early chairman's admonition of "let's not argue with each other"—had obvious differences of emphasis; some wanted to push the staff on assessment, some on gender teaching, some on computers.

Finally they reached the patchy profile of research and staff development among those teaching on the course. Some staff were doing plenty, the panel observed; others appeared to have done nothing since their first degree.

According to the poly management, the relevant deans distributing their faculty resources were responsible for staff development. It was an embarrassing reply. Roy Bailey, as everyone there knew, was suddenly both defendant and judge: the chairman's faculty staff taught on the degree.

During the discussion with management, he had said little. Now he brought the subject up. "I was absolutely aware that one of the major criticisms was of my own department," he admitted. "I asked them about people who sat in the corner and did nothing—and I thought, 'I know who that is'."

"I felt like running round the table and saying 'I can't answer that: it's quite right'."

What does that admission, in front of outsiders and junior colleagues, mean for the standing of DIY validation? Obviously it depends on whether anything is done about it. But short of CNAA draconian measures—not justified here—action on staff research is no more guaranteed by the council and potentially even less so by an internal process behind closed doors.

Putting the comparisons into perspective

The differences between the Sheffield experiment and the CNAA system can be exaggerated. Fundamental criticisms of validation—that it deals with paper, not practice—is true of all methods, though it is significantly limited when student evidence is sought.

Even a session of the day, very much modelled on CNAA visits, was too short to deal with the issues raised. Yet a longer, and so probably costlier system, would find little political favour. The problem of bureaucracy remains: the panel is theoretically in continuous session to consider any resubmission of the new option and until its report is accepted by the poly's academic board and the CNAA. Two months after the visit, that is not achieved.

An adversarial format is not always helpful: it encourages defensiveness and rhetoric—"bland statements and huge reading lists", said a panel member. Only rarely would people admit publicly they were wrong.

But those moments were crucial. The active scrutiny of colleagues by the staff, admissions by colleagues to colleagues must, when they happen, be the best guarantee that yesterday's course will be better tomorrow. In case colleagues fail to be that open, outsiders must be there as witnesses and irritants. The Lindop committee was right: the best guarantors of standards are staff in their own institution. The next best and a safety net are outsiders.

The Sheffield experiment, for all its limitations, is the best available form of validation because it contains both

An eighteenth century hit show has been rediscovered by Aberdeen University. Olga Wojtas reports

Tuning in 200 years later

Just over two centuries ago, members of the eminent Morayshire Brodie family went off to a London theatre to see the equivalent of today's latest Lloyd Webber offering.

And just as present audiences throng to buy the album of the show in the interval, the Brodies picked up the songbook of Raynor Taylor's burletta, *Buxom Joan*, to entertain the folks back home.

The music was recently unearthed through the researches of Dr Roger Williams of Aberdeen University's music department, and last night *Buxom Joan* was performed for the first time since its Covent Garden production on April 22, 1779.

In three-act form it is part of a triple bill at Aberdeen Arts Centre, alongside a modern ballet set to electronic music created by Raymond Dodd, head of the music department, and *Mahagonny Songspiel*, by Bertold Brecht and Kurt Weill, a tale of human frailty in an imaginary boom town, naturally bearing no resemblance to the capital of the oil industry.

Sharing the bill is no novelty for the burletta, a genre which existed in the mid 18th century. It made fun of the conventions of serious opera, and was, Dr Williams suggests, the equivalent of the stand-up comic, preceding or following a main per-

formance during a period in history when an evening at the theatre meant watching two or three productions.

Buxom Joan was first performed on June 25 1778 when it followed Shakespeare's *Henry VIII* at the Theatre Royal in London's Haymarket. It was also billed with the *Beggar's Opera*, a Beaumont and Fletcher play, and *Much Ado About Nothing*.

Dr Williams, who is conducting both *Buxom Joan* and *Mahagonny*, has for several years been researching music collections in National Trust properties, and was musical director for a series of six programmes on Gramplan Television, *The Music of Castle Fraser*, which won the music education media award.

While he was at Castle Fraser, he was introduced to clan chief Brodie of Brodie, who gave him the run of the Brodie Castle music collection. There he discovered a remarkable collection of stage works dating from London seasons in the 1770s, including *Buxom Joan*.

"I didn't know it had any rarity value, but later discovered that there are only two other known copies in the British Library and one in Cambridge," says Dr Williams.

One of the biggest problems for the musical historian is that the concept of writing for posterity was not in composers' minds until the 19th century. All musical pieces were written for specific occasions, often for particular performers, and at the end of a season, scores were simply discarded.

With more than 60 pleasure gardens, and 10 major theatres in London alone, composers were effectively musical journalists. "Because there was no collection of music, it all had to be freshly written. It wasn't considered any big deal to be a composer—you didn't wait for divine inspiration, it was a craft."

Dr Williams himself has had to rely on a fair degree of craftsmanship, if not divine inspiration. The Brodie Castle music, and the two other copies, are simply keyboard arrangements of the orchestral score, deliberately simplified for the amateur market.

Dr Williams has spent 150 hours constructing as authentic an 18th century score as possible.

The orchestra, which is made up of past and present music department students and staff, who are appearing on stage in 18th century costume,

comprises strings, flute, clarinet, bassoons, horns and harpsichord.

The burletta's plot, based on Congreve's *Love for Love*, is not an original or complex one, but goes Taylor ample scope for debunking overblown operatic emotions.

It has six characters: Joan, her mother, Tom the Tinker, Snp the Sailor, Ben the Soldier, and Ben the Sailor. Joan is sung by the soprano Fiona Dobie, with Sally Garden, a final year student at Aberdeen, and Gordon Wilson, a final year student at the Royal Scottish Academy of Music and Drama, as Joan's mother and the sailor.

The burletta begins with Joan's mother urging her to marry: "Resolve at once, when you are old you will complain at being forced to gnaw the sheets in vain."

Joan, however, is not impressed by the three suitors—tinker, tailor and soldier—whom her mother produces. Operatic convention demands at this point a "rivals' ensemble" with each suitor vying for the lady's hand. Taylor, however, styles this as a catch, a form of music particularly associated with gentlemen's clubs.

"The women in the audience probably would not have understood this

In the last of her series on continuing education, Felicity Jones visits Bristol and Leeds

Continuing story of swings and roundabouts

The pendulum of higher education keeps swinging. Fashions and facts come and go. Professor Ted Thomas of Bristol University's department of extramural studies acknowledges philosophically.

Twenty years ago he arrived in the department to run post-experience courses in engineering. "The Department of Education and Science is now telling us to do that as if it were the best thing since sliced bread. There is nothing new."

He displays a degree of scepticism at a university which many insiders think has got the balance right between income generating continuing education and traditional adult education.

The University Grants Committee agreed that it was a worthwhile idea seven years ago and put up the money for a special academic appointment whose job it is to stimulate continuing education in engineering.

Dr Roger Moses is formally a member of the engineering faculty but also has offices in the extramural department and was a part-time adult education tutor before his appointment.

He organizes international conferences in remotely piloted vehicles sponsored jointly with the Royal Aeronautical Society, Micros in Refrigeration and Low Light Level Devices to name but three of the courses in a subject which is always said to be neglected by adult educators.

It has always been the department's attitude that both grant-aided and non grant-aided work should be done by the same group of people without prejudice.

Bristol learned a funding lesson early when in the UGC cuts it had to bear a larger loss than other departments within the university because it was felt to be stronger. In four years financial support has dropped in one way and another by 13 per cent. A loss which has had to be stemmed from elsewhere including fee increases which have doubled.

It has directed considerable energy into non-

responsible body courses linked to employment using the department's superb residential accommodation with its Wagnerian setting perched high above the cliffs by Brunel's suspension bridge.

The intensive start-your-own-business course is for unemployed adults who have plans to set up their own small company. The students come along with definitive objectives and will get help with their particular problems as well as a general grounding in accounting and marketing.

Jeff was employed as a laboratory manager with the Ministry of Defence before his particular section was taken over by Cranfield Institute of Technology. He was offered early retirement which he accepted and decided to pursue a new life.

He had been running skiing holidays for his colleagues and thought he could turn that into a full-time business, provided that he could find some other leisure activity, such as entertaining American visitors, which could fill the non-skiing summer months.

He admitted to little business experience: "We were asked to list out objectives which I found really difficult. It makes you think."

"I've had no experience in financial accounting in terms of cash flow and profit and loss. You do need to know some of the fundamentals about selling and company law," said Jeff.

Eighty per cent of small businesses fail which led to the Manpower Services Commission interest in this form of education. Bristol University aims to

have three-quarters of its students successfully in business six months after their course of study.

The MSC-sponsored course on Women into Employment which is run in tandem by Dr Elizabeth Bird for women who have been out of the job market for some years has made some remarkable inroads into women returners.

It has achieved the highest employment success rate of any equivalent MSC course. It is held for a full day once a week plus a residential weekend and students receive practical help with letter writing, job applications and interview skills.

Seventy per cent got employment or entered further training in a survey taken six months after the close of the course.

The other side of the coin of inner city university continuing education is presented by Leeds University's department of adult and continuing education which has put great emphasis on its outreach work with working class adults who are often denied access to higher education.

Mr Roger Fieldhouse, senior lecturer with responsibility for this part of the university's work explained that historically it was designed to be like any other department within the university, producing high level courses and therefore needed a large staff of full-time academics.

"We aimed at those who have missed out from education and who need a lot of time with a tutor to take them above an elementary level," he said. Even before the new DES formula was

announced, Leeds has decided to try new sorts of students and increase its own get into one year what previously it had done.

"But a lot of outreach work is needed by those people and that brings us back to the involvement because that sort of work has to be by full-time staff. It is not easy to make different group of students outside the classes," said Mr Fieldhouse.

This means that Leeds' much-vaunted pioneer work with adult unemployed unemployed-university-like settings in housing community centres for groups of non-adults is in danger.

The formula introduced this year by Department of Education and Science in effective student hours and penalizes any which involve non-teaching work such as the of action research with the unemployed.

The DES is not only aware of this fact but sympathetic and may find some way of leaving those who might attempt similar work little financial backing.

The Leeds team believes that this sort of work in the community among working class demands a basic core of staff who do not do work: establishing contacts, setting up and handing on the courses to more providers like the local authority or the Workers' Educational Association.

It also needs longer short-term funding: three years. "A project is just getting it down after that period when it gets then off. It takes quite a long time to establish it to build up a network."

Based within the university, the work with unemployed is the subject of a research project. A research monitoring group is preparing on the pioneer work for the department it will be used for dissemination.

Who's the king of the jungle?



With one dramatic gesture Michael Heseltine broke through the pretence that government is about management and brought a reminder for the Prime Minister that politics is about politics. As head of a government department he had sought to introduce a new style of management. Richard Rose assesses how the real power in Whitehall is calculated



Nearly everyone at Westminster agrees that government is a very big organization, but few politicians think that the job of a politician is to manage government, as a businessman manages a business.

Margaret Thatcher has appeared exceptional, using the tools and techniques of a manager to make government smaller. She has even brought in Derek (now Lord) Rayner from Marks & Spencer, the symbol of a well-managed British business.

Michael Heseltine appeared an exception too, proclaiming: "The management ethos must run right through our national life - public and private companies, and the Civil Service." Not only had he actually made a lot of money as a businessman, but also he sought to promote business practices in Whitehall.

At the Department of the Environment he introduced MINIS (Management Information System for Ministers); it was favourably reviewed by a London Business School lecturer in the journal of the Royal Institute of Public Administration.

When Heseltine resigned from the Cabinet, he reminded the Prime Minister that politics, after all, is about politics. This is true whether one interprets the dispute as about a matter of principle - should a British manufacturer of military equipment co-operate with American or European firms? - or a matter of political status - who is the king of the jungle, Terzan or Jane? Who is to lead the Conservative Party in the years ahead?

Whatever the nature of politics, government still requires the management of large organizations. From a Whitehall perspective ministers come and go, but the ministry carries on. The direction of hundreds of government programmes and the expenditure of £130 billion of public money each year is not decided by ministers sitting around a Cabinet table. It is principally the work of civil servants in the ministries.

To understand big government, we must understand both the importance of political status, and the management of ministries. In constitutional theory, there is no distinction between the secretary of state and his ministry; the secretary of state is the ministry, incorporating all that happens within his jurisdiction. In political practice, ministers are less interested in what goes on within their ministry than in what goes on in Cabinet committees, in Parliament, in the party, and in the media. A ministry whose minister is not a good ambassador on its behalf, standing with representing it in other parts of Whitehall, is headed for defeat in inter-departmental battles.

What, then, is the relationship between political status and the management of ministries? Does success in public management lead to a higher

political status, or is it a step on the political road to nowhere? Does a successful politician need to be good as a manager of a large organization? Are the skills needed to manage stocks and underwrite, whether in a retail chain or the Ministry of Defence, relevant to the management of a country?

At the scale of their managerial responsibilities, the Secretary of State for Health and Social Security is responsible for the country's two most important welfare services, whereas the Lord Privy Seal lost his job of looking after royal seals centuries ago. The differences between ministries can be readily measured by two attributes: the number of people employed, and the amount of money spent.

Only two Whitehall ministries are really large employers, the Ministry of Defence and the Department of Health and Social Security. If the Armed Services are combined with civil employees, defence has more than 500,000 people, of which 200,000 are civil servants. The DHSS has 90,000 civil servants.

The Treasury appears a large employer, 110,000 staff, only to those who do not look behind the figures. The Treasury proper has only 3,800

Out-stationing is the normal mode of organizing the work

employees, including typists and clerks. Of those for whom the Chancellor of the Exchequer answers in the Commons, 97 per cent are "out-stationed" to other organizations, principally the Board of Inland Revenue and HM Customs and Excise. Managing tax collection is their responsibility, rather than that of a Chancellor trying to keep afloat amid the cross-currents of the national and international economy.

Out-stationing is the normal mode of organizing the work of British government. The median Cabinet minister has only a few thousand civil servants working directly under him. Public services are usually shipped out to local authorities, to the national health service, or to public corporations. Whitehall ministries do not want to have their own fingerprints on the goods and services delivered as the chief outputs of the contemporary welfare state. Jim Bulpitt has ingeniously argued that these remain matters of "low politics", unsuited to a Westminster politician's quasi-aristocratic or elitist self-image.

When public expenditure is the measure of size, the anomalies between parliamentary answerability and hands-on responsibility for delivering services is further emphasized. The biggest spending department, the DHSS, is actually two departments.

On the health side, it passes nearly all money to the health services to manage. The social security side actually manages the disbursement of £30 billion itself - but it does so from offices in Newcastle! The controller there has the worries and pride of a works manager, rather than the concerns of a civil servant managing the agenda for a difficult Cabinet committee. As Sir Robert Armstrong, head of the Civil Service, has admitted: "Civil servants have tended to find policy work more glamorous and more interesting than management work."

The Secretary of State for Education and Science answers in the Commons for the expenditure of more than £13 billion, yet is aided in spending this money by a staff of only 2,400 civil servants. How does he manage education? The answer is: he doesn't. It is the responsibility of local education authorities, universities and other bodies that receive money via the Department of Education and Science. Of the total employed in education, less than 0.2 per cent work in the DES.

The staff of the DES never expect to manage a university senate meeting, let alone a classroom of unruly children, or a staff room of unruly teachers.

When we look at how much money a ministry spends for programmes that it delivers itself, the answer is: not much. The median ministry is a few hundred million-a-year operation, even though its secretary of state makes the sound like a multi-billion enterprise. Defence is exceptional in spending large sums. Heseltine had a more normal Whitehall post when he was Secretary of State for the Environment, confronting local authorities responsible for spending tens of billions of pounds, while the department spent relatively little, being only an overseer of local government.

If manpower and money do not make for high political status, what does? Many things: media publicity; attention in the House of Commons; chairing Cabinet committees; and holding an office which is a stepping stone to even higher office. Ministers can be ranked on each of these four criteria to measure which confer the most and the least political status.

Ministries that are highest in political status are not large organizations. The typical high-status minister manages only a small number of civil servants, or concentrates exclusively on managing fellow politicians, for three high-status posts are non-departmental. The Prime Minister must manage her party, her Cabinet, and the electorate as a necessary condition of having a government to manage; the Lord Privy Seal manages the Commons, and the Lord President of the Council manages colleagues in Cabinet committees as well as the House of Lords.

The three departmental ministries with high status, the Treasury, the Foreign and Commonwealth Office,

and the Department of Trade and Industry, are small in organizational terms. Each employs fewer civil servants in its core ministry staff than Agriculture or Transport, or for that matter, many local authorities.

These three ministries, like a merchant bank, have big responsibilities with small staff. Managing the economy is a problem of strategic intervention; it is analogous to managing investments, where big sums are shifted by few people. It is not like managing an industrial enterprise producing goods in factories. This is even more true of Trade and Industry, which has 12,000 staff to deal with the concerns of tens of thousands of firms and many millions of employees. The Foreign Office rightly ranks ahead of Defence in status, for it is concerned with deciding whether the country is at war or at peace. The MoD's task is to manage fighting a war.

The ministries that rank lowest in political status are not necessarily low in their claims on material resources. Education is low in the status order, notwithstanding ranking third in the conventional Whitehall league table of public expenditure. Agriculture and the Welsh Office also rank low in political status, even though they

Defence is a big ministry of middling political status

spend more money than the Treasury and all its subsidiary institutions. The DHSS, which ranks first in spending and is an important public employer, is a ministry of middling political status. Its secretary of state is normally not a member of any important Cabinet committee, and press publicity is only average. Since the post was created in 1968, no incumbent has ever risen to a high status office.

Defence too is a big-spending ministry of middling political status. One reason why Michael Heseltine may have been attracted by the idea of being sent to Trade and Industry in the last reshuffle (where he might then have argued the brief that Leon Brittan had) is that the DTI is high in political status and more likely to lead to still higher office.

With one dramatic gesture, Heseltine broke through the pretence that government is about management by resigning from the Cabinet on an issue that is trivial in resource terms, but non-trivial in political terms. Like others who have resigned for a mixture of motives, such as Aneurin Bevan, Heseltine will be inclined to broaden the area of disagreement between himself and the Prime Minister, in doing so, he will remind her that the marginal seat of Fulham is a reminder that in politics the bottom line is ballots not bucks.

Neil Kinnock, if he becomes Prime Minister, will owe it all to his skills at political management, for he has never managed a government department or, for that matter, anything larger than a Workers' Educational Association class. Michael Heseltine, if he is to become Prime Minister in future, will need to discard the rhetoric of business management in favour of skills appropriate to managing a political career.

To recognize that politicians have ambitions is not to be cynical, but to be realistic. To recognize that the principal role of ministers in the British political system is non-managerial poses problems only to those who may naively believe that government, and especially government at the top, is an apolitical activity. This is a myth that civil servants cultivate too with their talk of having a "non-political" role, when what they mean is that they have a non-party role. In the lightning of the Cabinet, ministers too are non-party; each must look after his own interests in order to maintain status within the governing party.

The unconcern of ministers with management is not a great problem, for ministries have relatively little to manage. More than five-sixths of all public employees do not work for ministries. Of that half of public expenditure dispensed by civil servants, by far the largest chunk is managed in the Newcastle upon Tyne office of the DHSS. The place to direct management concerns is not so much at Whitehall, but at local government, the health service, and nationalized industries.

Ministers are actually meant to be politicians, that is, to represent conflicting points of view about what government should do and, if given the endorsement of the electorate, to give direction to government. To do this is no small task, as Mrs Thatcher has shown by her use of rhetoric to alter political debate in Britain.

Ministers are also meant to inspire confidence in the country that their government is successful in going in the direction that most people want. Like most of her Downing Street predecessors for the past generation, Mrs Thatcher has been very successful in doing that. She has won two elections, but her party's share of the popular vote was low by post-war standards, and today it is dangerously low in opinion polls.

The day after Michael Heseltine resigned, the Prime Minister received a pointed reminder of the need to give first priority to maintaining her political status. The advent of a by-election in the marginal seat of Fulham is a reminder that in politics the bottom line is ballots not bucks.

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"Yes, we are much cleaner in the Republic of China (Taiwan). Cleaner in every way. Spiritually, physically, and morally." So reads a recent editorial in the China Post, Taiwan's largest circulation English daily castigating "Communist China" for lagging behind Taiwan in providing hot bathing facilities for its people.

Westerners who have lived in Taiwan since the 1960s say that the anti-Communist and anti-People's Republic of China (rarely mentioned by name and then in inverted commas) rhetoric has considerably abated in recent years. University faculty members will tell you in private that they consider such talk to be for the birds or use a rather more endearing Chinese expression: "wind past the ear". Nevertheless, President Chiang Kuo has recently stated that the Kuomintang government will never talk with the Chinese Communists and that he believes them to be "rabidly militant" and intent on subjecting Taiwan to "Communist tyrannical rule".

Massive US aid in the 1950s and 1960s greatly assisted Taiwan to rapidly develop from being an agricultural economy to a newly industrialized country. Taiwan's economic performance frequently surpasses the expectations of the Kuomintang government and independent forecasters. Today, with approximately 50 per cent of its economy accounted for by exports, Taiwan, in common with most East Asian economies, is experiencing a slowing up of growth and there is little sign of revival abroad.

Since the establishment of the Kuomintang government in Taiwan in 1949 the population has soared. It was 5.7 million in 1954 and 19 million in 1984. The government has not been slow to invest a sizeable slice of Taiwan's GNP in education: 2.5 per cent in 1960/61 and 6 per cent in 1982/83 (UN: 5.6 per cent, USA: 6.9 per cent, USSR: 7.0 per cent, Peoples' Republic of China: 2.67 per cent - 1982/83).

Evidence of this investment is easily observed during visits to Taiwan's universities where many buildings were completed in the 1970s and campuses today continue to resemble vast building sites. There are 14 universities, five of which are private. There are also 23 three and five-year junior colleges which are mainly responsible for education in the applied sciences, primary teacher education and secondary teacher education. About 7 per cent of the age cohort attend universities and about 5 per cent attend junior colleges. The national (state) universities are generally considered to offer a higher standard of education than the private universi-

China's little brother with big ideas

In the latest of our series on south-east Asia, John Belcher visits universities in Taiwan



The Chinese Culture University, where palatial architecture is one of the special sights.

ties, essentially because they are highly subsidized by the Government. All universities charge students tuition fees of about £300 a year in the national universities and £600 a year in the private sector.

There is a three level pecking order of universities, first the National Taiwan University, Taipei, then the national universities in the provinces, and the private universities. The facilities at Taiwan's universities are excellent and can be compared to those found in many western European countries. In particular, their libraries are very well stocked, which is not surprising considering that Taiwan is not a signatory to the Universal Copyright Convention.

Science and engineering laboratories are as modern and well equipped as those found in the UK. Many computer centres are superior to their British or US equivalents and the level of maintenance is impressive. At National Chiao Tung University the massive science park would dwarf similar developments in the UK. Numerous small high-tech companies represented and international trade has a high profile with English, French, German, Japanese and Korean being widely spoken in public venues.

Admission to university is very competitive and via a national examination, the United Entrance Examination which is held annually. Since 1984 the examination has had nine sections (previously four) and students prepare for subjects in one section (eg science) but can link two sections (eg science and engineering). There is also a general section. On the basis of scores obtained in this examination, students are allocated to the universities. Those who fail often resort to tutorial institutions in the hope of passing the examination next time around.

The government is keen to win international recognition and has a genuine concern, held in common with the government of the People's Republic of China, for overseas Chinese students. It therefore provides financial aid to encourage such students to join universities in Taiwan.

The university system, although officially based on the teachings of Sun

Yat-Sen, is modelled very closely on that of the USA. Regarding a university's prospectus it is quite easy to think that it is describing a state university in the US. First degree programmes last for four years with a strong general educational component and the system depends on credit accumulation. Post-graduate degree programmes have substantial taught components. Many faculty members have been educated in good universities in the US, and a surprising number have residence rights as a safeguard against any future political developments they may find disagreeable.

To western eyes the university system in Taiwan is very authoritarian. All students have uniforms that they wear once a week and all students participate in compulsory weekly military training as part of their degree programme. Campuses are very residential and mixed sex accommodation is not permitted. At one university I noticed that the girls' dormitory was surrounded by a very high wall topped with barbed wire.

There is considerable emphasis on compulsory weekly physical education and the university authorities take their role in organizing the social activities of their students very seriously. At Soochow University the recent 85th anniversary celebrations were voluntarily attended by thousands of students who performed marching, exercises in unison, and various sports for two days.

The president of one of Taiwan's major private universities has recently launched a "get close to the students" campaign among his faculty with a view to reducing authoritarianism. But attempts to reduce authoritarianism within the university system are un-

likely to succeed unless there is a liberalization and democratization of the Taiwanese society as a whole. The perceived external threat based on the fact that Taiwan is still at war with the communists has been used to justify 36 years of martial law and controls on dissident activity.

Students attending universities in Taiwan are very interested in opportunities in the west for postgraduate studies. Some subject areas are poorly developed compared to what they can find in western countries and there is a focus to be derived from studying abroad that can greatly enhance job opportunities. Such students overwhelmingly go to the USA where there are about 5,400 students from Taiwan enrolled in universities and colleges studying a very wide variety of subjects. Information concerning British universities and polytechnics is sparse, but, if available, would dispel some of the myths about UK higher education prevailing among students in Taiwan, ie that it is near impossible to obtain entry and prohibitively expensive.

Taiwan's university libraries and the resources centre at the Ministry of Education in Taipei are well stocked with the literature of US, Australian, Canadian, Japanese, German and French universities. But it is usually only possible to locate a handful of British university prospectuses dating from the 1960s and 1970s. Since 1972, when the People's Republic of China took a seat at the UN, displacing the

Kuomintang government, there has been no diplomatic relations between the governments of Taiwan and Britain and consequently the British Council is not represented in Taiwan.

Britain should be aware that in 1997 there are considerable possibilities that relationships between the Peoples' Republic of China and Taiwan will improve because of the Kong's important trading position, both parties and Beijing's willingness to use Hong Kong as a re-union model that reduces opposition to anticipated reunification of the Peoples' Republic of China and Taiwan. Earlier this year Beijing stated that it would not damage lucrative trading relationships with Hong Kong when Britain reverts to the Peoples' Republic. 1997 and Taiwan has indicated despite its vehement objections sever all ties with Hong Kong.

There is considerable feeling among government officers, academic university administrators that they should diversify the range of resources receiving its postgraduate students so as to be less dependent on US universities. English is the second language in Taiwan and Chinese and British universities and polytechnics are attractive propositions, with a reservation: there is concern in Taiwan that recent cuts in UK government expenditure on universities threaten Britain's scientific heritage.

Taiwan: Growth in University Education

Universities	University Teachers	University Students	University Teachers Ratio
1950/51	1	5,374	1-10.80
1983/84	14	8,407	1-12.88

BOOKS

Seeking advice

Democracy at Work
by Tom Schuller
Oxford University Press, £12.50 and £4.95
ISBN 0 19 219186 1 and 289168 5
Improving Industrial Relations: the advisory role of ACAS
by Eric Armstrong and Rosemary Lucas
Croom Helm, £16.95
ISBN 0 7099 0554 8
Comparative Industrial Relations: an introduction to cross-national perspectives
by R. Bean
Croom Helm, £19.95 and £10.95
ISBN 0 7099 3251 0 and 3281 2

For much of the 1970s, industrial democracy and participation were buzz words in industrial relations. The EEC issued a directive (the fifth) on the subject and the Bullock Committee deliberated on the means of introducing trade union representatives onto company boards. A decade after its establishment, the outcome of Bullock is now history – the diluting of the report in the 1978 White Paper and the shelving of the issue even before Labour's 1979 election defeat. In the mid 1980s, several additional obstacles impede any advance in industrial democracy in Britain, not least the shift in power away from the trade union movement in recent years.

Yet the subject of employee participation has not totally disappeared. What has changed is the emphasis, away from power-sharing forms of representation towards more managerially controlled, advisory forms of worker involvement (such as quality circles) and financial forms of involvement, notably profit-sharing schemes. At a time when productivity is emphasized above almost everything else, worker cooperation and commitment is a key factor in achieving higher productivity; for management, forms of worker consultation represent one means of securing this consent.

It is against this background that *Democracy at Work* is published, with the author clearly identifying his own stance in favour of worker participation. Schuller begins by examining various labour force developments – greater unemployment together with a larger informal economy and service sector and more shift-working and part-time workers – and their implications for greater democratization of the workplace. Subsequent chapters deal with the historical development of worker influence, and the complex question of achieving a more democratic distribution of power within a capitalist ownership structure where rights attached to property (and capital) remain dominant. Though providing little new data, the middle chapters of the book never-

theless offer a different perspective to many of its predecessors on industrial democracy. After considering profit-sharing, and other financially-based schemes, Schuller devotes separate chapters to worker involvement – or lack of it – in pension fund management (on which the author has previously published several articles), on joint health and safety committees and in the public service sector. In the last, a central question is the extent to which extending employee decision-making rights clashes with the political democratic machine and, in particular the accountability for decisions of elected representatives to their electorate.

The obstacles to effective worker participation in decision-making go beyond simple managerial resistance to factors such as representatives gaining participatory competence and maintaining adequate contact with their constituents. This short but elegantly written book airs a number of important issues and points to the narrowness of much of the current perspectives in Britain on worker participation.

Though reluctant to introduce far-reaching participation schemes, management are much more positively disposed towards the role of the Advisory, Conciliation and Arbitration Service (ACAS) in advising on industrial relations problems. It is the conciliation function of ACAS which captures the news coverage, yet compared to conciliation, four times the man hours in ACAS are devoted to background advisory work. To evaluate this advisory

role, Armstrong and Lucas collected questionnaire evidence from almost 550 ACAS clients (including over 80 trade union respondents). Additional material was gathered from over 70 ACAS advisory staff and 80 institutions involved with industrial relations (employers' associations, trade unions, personnel training bodies, and so on).

The approach taken in both data collection and discussion of findings is a very pragmatic one, the focus clearly on evaluating how well ACAS performed its advisory role, and only occasionally straying into such broader questions as the developing role of the state in industrial relations and the changing political definition of what constitutes "good" industrial relations.

The evaluation is overwhelmingly positive. In relation to both short advisory visits and more in-depth advisory work the vast majority of respondents thought the quality of the information received was good or very good and most implemented the advice fully or at least to an appreciable extent. Much of this advice related to procedural reform (for example grievance, disciplinary, dispute and redundancy procedures) along with issues such as individual rights, payment systems and local bargaining arrangements. As well as the quality of information, the impartiality and independence of ACAS was highly regarded, not only by the client organizations but also by the third-party groups questioned.

The role of ACAS in British industrial relations contrasts markedly with a

number of systems abroad (Australia for example) where arbitration is compulsory following a specified impasse period. According to Bean, however, such comparisons are of more theoretical than practical use; the close interrelatedness of industrial relations with particular environmental and cultural contexts is seen to make the transfer of particular practices from one country to another highly problematic. *Comparative Industrial Relations* is described as an introductory student text (though the paperback price of £10.95 hardly appears to reflect this); in it the author seeks (with some success) to go beyond simple descriptions of differences to provide more analytical tools to account for those differences.

The format generally follows a pattern common to single-country studies, with separate chapters on unions, employers, bargaining, the state, conflict and participation, and with an additional useful chapter reviewing industrial relations in multinational corporations. The book's main weakness is that it concentrates almost entirely on advanced market-type economies. While the penultimate chapter does discuss industrial relations in developing countries, centrally planned economies get very short shrift.

Paul Blyton

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"Where I work" (1974) an oil painting on wood by Jack Crabtree, a Lancashire artist who was given a grant by the National Coal Board to spend a year painting in the South Wales coalfields. The picture is reproduced in Eric Rowan's *Art in Wales: an illustrated history 1850-1980* (University of Wales Press, £35.00).

Do it yourself

Methods of Social Investigation
by Peter H. Mann
Blackwell, £18.50 and £6.95
ISBN 0 631 14408 0 and 140190
Doing Your Own Research: how to do basic descriptive research in the social sciences and humanities
by Eileen Kane
Marion Boyars, £7.95
ISBN 0 7145 2843 9

Both of these books are do-it-yourself guides to social research practice for undergraduates. They are also examples of how and how not to write a useful research resource.

Peter H. Mann's *Methods of Social Investigation* is a new edition of a 1968 publication. While the jacket advertises the work as "completely revised and brought up to date", this unfortunately is not the case. The revision is patchy and rather hidebound, the updating half-hearted and insufficient.

The book was originally published at a time when sociology was arguing for its name to be placed on the doors of academic institutions. The epistemological frame of reference of the text reflects what was then, for some, an urgent professional issue – the claim for sociology as a scientific discipline. Consequently, objective observation is presented as the means to good social research, with predictions and law-like generalizations the ultimate goals.

A new edition of the text would have provided an interesting opportunity to reflect on the status of these ideas, if only to communicate how the central questions of debate have altered. Sadly, the author did not take this opportunity. Although the early chapter titles have changed (for example, from "Sociology and Science" to "The Study of Social Behaviour") and some passages are revised, the basic argument is unaltered. Given that there is no discussion of the particularity of this view of social science research practice, no references to alternative ways of thinking, and no serious indication that the image of science presented has been the subject of much debate, the new edition offers little to a contemporary audience beyond a glimpse of the past.

Such a limitation could be overlooked if the subsequent discussion of research procedures was particularly instructive. Again, however, what is offered is disappointingly dated, and instruction is frequently overtaken by admonition and anecdote. The decision to omit the annotated bibliography included in the first edition, rather than update it, limits the usefulness of the text, and is perhaps an indication of the criteria which seem to have guided the production of this volume.

Doing Your Own Research by Eileen Kane is another matter altogether – its delivery far exceeds its modest claim. Despite an unfortunate insistence that the book deals with "descriptive" rather than "explanatory" research, it discusses research procedures and possibilities in an extensive and confident fashion. Information is presented in a well organized and efficient manner, and the tone of the volume is professional, friendly and unpatronizing. There are four main parts to the book: What do you want to know? How do you find it? Preparing the results, and Counting the cost. Each builds on the expertise developed in earlier parts and the object is to provide students with the understanding needed to make justifiable decisions concerning their research. In

most chapters, the discussion of research practice is illustrated by examples and extended by suggestions for further reading, and in terms of supply and selection, both are well measured. The guide to data sources and data collection is sufficiently detailed and eclectic, in medium as well as in nationality, to be useful and thought provoking (although the Economic and Social Research Council data archive is an obvious omission).

The book does suffer, however, from having its identity limited to one half of a problematic separation between "descriptive" and "explanatory" research. Issues of theory or research practice constantly impinge on the research practice discussed, and a full consideration of theory and data would have been preferable to the limited option taken. Nevertheless, on reading the book one gets the impression that a student could approach it with a research idea and leave it with an intelligent and carefully produced research report – and that is quite an achievement.

Janet Siltanen

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Living in a groping society

The Knowledge Elite and the Prophecy
by Eyal Itzhak-Halevy
Allen & Unwin, £12.95 and £5.95
ISBN 0 04 301 192 6 and 301 193

Those subscribing to the rationality have typically, in their belief system, the notion more people find out about the better place the world will surely be. "Blessed is the person who only one grew before self-evidently right. 'Happy a ruled by philosopher-king' likely to be the case. 'How can we be sure that there will be benign?' When the knowledge have little control uses to which their knowledge put, how can we be certain knowledge will be universal?"

These problems have bothered people to an extent over the past century and still confusion about the social intellectual. The potential of the knowledge society themselves embarrased by the argument both for the resources and to understand the physical and also for the resources the purposes to which such control should be put, included bound to be in dispute and meaning and relevance of both. No one wants to live in a world totally predictable and controlled. Freedom lies in the spaces we explore social engineering and not to be social engineering.

Those like Halevy who have five years, he attributes this slowness to technological and financial constraints, to a lack of organizational support, particularly from the US Air Force after the cancellation of its manned space programme in the 1960s, and to the lack of American incentive so long as the retained nuclear superiority over the Soviet Union.

The sharp acceleration of the late 1970s reflected technological developments, especially in non-nuclear kill techniques and in terminal homing devices; a recognition of the "force multiplier" effects of satellites for a whole range of military missions, including general purpose military operations; and the concerns aroused by the resumption of Soviet testing in 1976 and their deployment of an operational ASAT system in 1977.

Stares fears that the outcome will be an arms race in space, which could be immensely expensive, destabilizing (as it threatens the satellites which outsource defence), and ultimately of little benefit as the top systems are not indispensable in war. Accordingly, he still believes that there is scope for arms control as a means of regulating and stabilizing ASAT competition, despite the missed opportunities for arms control in the 1960s, early 1970s and early 1980s.

Whether this will occur is possibly doubtful, as Stares himself admits. Neither the passage of time, (by which military dependence upon satellites is likely to increase while more sophisticated ASAT systems may be deployed) nor the Strategic Defence Initiative (SDI) – the so-called "star

Space Weapons and US Strategy: origins and development
by Paul B. Stares
Croom Helm, £25.00
ISBN 0 7099 2369 4

Searching for World Security: understanding global armament and disarmament
by Curt Gasteyer
Frances Pinter, £17.50
ISBN 0 86187 562 1

Star Wars: science fiction fantasy or serious probability?
edited by E. P. Thompson
Penguin, £2.95
ISBN 0 14 052371 5
The Politics of Nuclear Defence: a comprehensive introduction
by Greville Rumble
Polity Press, £19.50 and £6.95
ISBN 0 7456 0194 4 and 0195 2

As the militarization of space will have an important bearing upon the prospects for global security, these books are most pertinent, especially the scholarly and thought-provoking works of Stares and Gasteyer. Paul Stares has written a clear, concise, and carefully documented history of the American Anti-Satellite (ASAT) programme, while Curt Gasteyer has proffered a wide-ranging survey of the processes of armament and disarmament. Both agree that technology cannot solve the problems of security on a national or an international level.

Stares demonstrates that the militarization of space has been a relatively slow phenomenon, despite the fact that the ASAT programme is an integral part of their armament for over twenty years. He attributes this slowness to technological and financial constraints, to a lack of organizational support, particularly from the US Air Force after the cancellation of its manned space programme in the 1960s, and to the lack of American incentive so long as the retained nuclear superiority over the Soviet Union.

The sharp acceleration of the late 1970s reflected technological develop-

Realism as ideology

Strategy and History: collected essays, volume two
by Edward N. Luttwak
Transaction Books, £19.70
ISBN 0 88738 065 4

Edward Luttwak has a rather simple conception of the game of nations, but he discusses its strategies, dynamics, and personalities in an extremely sophisticated and sometimes stylish manner. And never far beneath the surface of his writing is that combative approach which has so characterized the neo-conservative intellectuals who have set the agenda for the public debate in the United States since the late 1970s. In the defence field none has been as combative or prominent as Edward Luttwak.

Although bureaucrats and occasionally the American public at large are sometimes the targets for his attack, his particular favourites are those liberals who, to adopt Theodore Roosevelt's famous phrase, "mean well feebly". Not surprisingly, therefore, President Jimmy Carter emerges as a president of severe criticism. The president is described as a "classic example of a very clever but basically unintelligent man"; as being "incapable of understanding the fundamentals of international affairs"; and as a person for whom "unwisdom was his permanent condition". New and old conservatives will revel in such robust writings; "liberals", "doves" and all to the centre and left of Luttwak might wince, but they can learn a good deal, for Luttwak's arrows are usually well placed, his knowledge is encyclopedic, his analysis is sharp, and his writings reveal a good deal about the workings of the

R. E. Pahl

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BOOKS

The race in space



Shigeo Taguchi, the only member of his family to survive the bombing of Hiroshima. The photograph comes from *A Place Called Hiroshima* by Betty Jean Lifton (Harper & Row, £14.95).

ments, especially in non-nuclear kill techniques and in terminal homing devices; a recognition of the "force multiplier" effects of satellites for a whole range of military missions, including general purpose military operations; and the concerns aroused by the resumption of Soviet testing in 1976 and their deployment of an operational ASAT system in 1977.

Stares fears that the outcome will be an arms race in space, which could be immensely expensive, destabilizing (as it threatens the satellites which outsource defence), and ultimately of little benefit as the top systems are not indispensable in war. Accordingly, he still believes that there is scope for arms control as a means of regulating and stabilizing ASAT competition, despite the missed opportunities for arms control in the 1960s, early 1970s and early 1980s.

Whether this will occur is possibly doubtful, as Stares himself admits. Neither the passage of time, (by which military dependence upon satellites is likely to increase while more sophisticated ASAT systems may be deployed) nor the Strategic Defence Initiative (SDI) – the so-called "star

Wars" programme – are likely to improve the immediate prospects of arms control. Stares could only allude to SDI, as he appears to have been finishing his manuscript when the programme was launched, but so long as the Reagan administration believes that it may be possible to intercept ballistic missiles (not just satellites) in space, it seems likely to give SDI research priority over arms control.

Curt Gasteyer addresses some of these problems in his review of armament and disarmament. He argues that these processes are not contradictory but may complement each other; that the control or reduction of nuclear arms may be paralleled by improvements in conventional armament; and that neither armaments nor disarmament are ends in themselves, but means towards the promotion of international security and the prevention of war.

Although these are eminently sensible premises, Gasteyer tries to amplify them by commenting upon almost every facet of the arms race, not merely nuclear arms but also the conventional arms trade, nuclear proliferation, the militarization of space, chemical and biological weapons,

new weapon technologies, the pressures driving the arms race, and the limited achievements of arms control. As a consequence, the book is somewhat uneven in substance. Several chapters are all too brief, lack adequate documentation, and miss key issues in contemporary strategic thought, including, for example, Albert Wohlstetter's critique of the action-reaction phenomenon as the purported basis of the arms race. Some of his comments are also slightly odd, notably his reference to the Second World War as "totally senseless".

Yet he proffers many incisive observations on the weaknesses of multilateral arms negotiations and on the impracticability of general and complete disarmament. He argues that any progress towards the reduction of armaments will depend upon changes in the political climate, particularly specific measures to reduce the sense of insecurity, instability, lack of information and the possibilities of miscalculation and precipitate action. He proposes measures to meet each of these requirements, none of which would require a fundamental change in international relations nor any loss of national sovereignty. Nevertheless he concludes, quite reasonably, that these proposals are unlikely to be implemented so long as nations continue to search for security through ever expanding arsenals of more sophisticated weaponry.

E. P. Thompson and his co-authors have written a fierce critique of the Strategic Defence Initiative. Thompson argues that SDI was launched to overcome the basing problems of the MX missile and the opposition of the "nuclear freeze" movement in the United States, and that its ultimate purpose is to enhance the competitiveness of American capitalism. "The real message of Star Wars", he concludes, is that western Europe should escape from American hegemony as soon as possible.

This analysis might have been more plausible had it been more balanced and more carefully researched (a criticism, however, which does not apply to John Pike's detailed account of the Soviet anti-ballistic missile programme). While Pike and Ben Thompson have used a fairly wide range of sources, the other contributors might have supplemented their references, largely culled from articles in journals and newspapers, by consulting the voluminous body of evidence on SDI which has been submitted to various Congressional committees.

Ben Thompson, for example, might have adopted a more balanced

approach in examining the projected costs and technical feasibility of SDI. Although he admits that there is a wide range of estimates, he prefers to concentrate upon the more alarmist projections, while merely mentioning the other views in his footnotes. Rip Bulkeley is even more extreme when he argues that the new Soviet missiles (the SS-24, SS-25, SS-N-23, SS-22 and SS-23), are the first stage of a "Soviet 'future' reaction to SDI". Apart from the fact that all these missiles are the products of ten-year development programmes, the first deployments of the SS-22 and SS-23 were in 1979 – four years before Reagan's speech launching the SDI programme. Finally, the analysis might have been more consistent. While E. P. Thompson depicts SDI as an "obscenity" to the peoples of the third world, dramatizing their degree of "vulnerability", he fails to explain how his preferred course of action for western Europe, namely the adoption of a non-aligned neutralist posture, would enhance our sense of security.

Greville Rumble provides a more balanced argument in his review of the evolution of nuclear weaponry and strategy since 1945, as well as the debates over the legality, morality and effects of nuclear warfare. He contends that Britain should adopt a non-nuclear defence policy, a conclusion derived from various assertions about nuclear weapons and conventional defence, some of which are quite remarkable. He claims that nuclear weapons contravene various international legal agreements, including the Geneva Gas Protocol of 1925; that American cruise missiles are being deployed in Italy not to defend western Europe but to "threaten the Middle East and North Africa" (thereby overlooking the point that the deployment was requested initially by the political leaders of western Europe and not by the United States); and that a European defence association could be formed upon the basis of territorial defence, guerrilla warfare and civil resistance, without even mentioning the role of France and the latter's firm commitment to the *force de frappe*.

Ultimately a defence policy, whether based on nuclear weapons or not, must be credible to friends and foes alike: Rumble's proposals, despite their careful construction, hardly meet this criterion.

E. M. Spiers

Dr Spiers is defence lecturer in the school of history at the University of Leeds.

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BOOKS

Scheme of things

Perfect Symmetry: the search for the beginning of time
by Heinz Pagels
Michael Joseph, £14.95
ISBN 0 7181 2608 4

Physics, it seems, has arrived at a peculiar stage in its development. A century ago there was a feeling abroad that, apart from some matters of detail, physics was essentially complete. Then along came the relativity and quantum revolutions and whole new vistas were opened up. Recently, a new spirit of optimism is sweeping the physics community in the wake of the heady advances being made in unifying the laws of nature - advances which stem chiefly from high-energy particle physics and its application to the origin of the universe. As a result, a number of physicists have begun to construct theories - or at least theories about theories - that address not merely one particular aspect of nature, but all of existence. Such "theories of everything" seek to unify all forces, particles of matter, space, time and creation into a single descriptive

scheme - possibly even a single master equation.

Curiously, this audacious optimism has produced a backlash among some sections of the physics community, who regard such preoccupation with grandiose cosmic schemes as a dangerous distraction from the real business of empirical research, which has a long way to go yet. Give the impression that physics is on the verge of culmination, they argue, and people will turn elsewhere for their science. The optimists counter, however, that the possibility that we might be dealing with deeper truths about the nature of the universe proves profoundly inspiring to scientist and layman alike and in fact acts as an incentive for fundamental physics.

Among the optimists, my favourite author is Heinz Pagels. His previous book *The Cosmic Code* received wide acclaim for managing to convey the "gee-whizz" quality of the ideas currently at the frontiers of physics without loss of balance or accuracy. Moreover, Pagels writes in an endearing folksy style that never allows us to forget that scientists are really overgrown children struggling to read the story-book of nature. *Perfect Symmetry* provides the author with an excuse to return to some of the "wild" ideas still surfacing in unification physics, and to explore those that have surfaced since his last book. Sadly, however, the theory of superstrings currently gripping the physics community appeared too late to be included.

This time, Pagels's way into the trendy topics of unification physics and cosmic creation is via astronomy, and nearly half the book is sectioned off in

something called "Herschel's garden" wherein the reader is led through most of the significant developments of modern astronomy and cosmology: stars, galaxies, black holes, and the like. The discussion then turns naturally into an account of the early universe - the primeval phase following its origin in a big bang. We then encounter the astonishing confluence of cosmology and particle physics, and the author is into the territory he presents so well. Always careful to avoid getting carried away, Pagels cautiously separates off many fashionable topics, such as the inflationary universe, into a "wild ideas" section.

Unlike many authors who write in this field, Pagels does not use the subject as an excuse to promulgate his own ideas - the ideas he reviews are fascinating enough. Only a few pages at the end are devoted to personal speculation. Here we are invited to contemplate a new metaphor: the universe as a gigantic computing machine, with the laws of nature constituting the "software". It is a perspective very much in tune with the drift of modern physical science, in which process is gradually replacing object as the basic concept. Thus, Pagels concludes with the ultimate mystery of the relationship between the cosmic computer and that smaller version we find inside our heads.

Paul Davies

Paul Davies is professor of theoretical physics at the University of Newcastle upon Tyne.

Discrete members

Finite Element Methods in Structural Mechanics
by C. T. F. Ross
Ellis Horwood, £22.00 and £14.95
ISBN 0 85312 808 1 and 889 8

Engineering analysis has been founded on the formulation and solution of problems in terms of differential equations. But although elegant analytical solutions are possible for a restricted range of problems, it is often found that the boundary conditions to be satisfied for practical problems make the mathematical manipulations excessively difficult. Consequently, the development of approximate numerical techniques has been vigorously pursued for many years; the finite element method being the most powerful yet produced. Essentially, this method converts the problem of solution of differential equations to one of setting up and solving linear simultaneous "stiffness" equations.

For the past hundred years, structural mechanics has been used to analyse frames and trusses - exact stiffness equations for members being constructed on the basis of elementary theories of the strength of materials. These equations are then compiled into a set of linear simultaneous stiffness equations for a particular structural system. Automatic computer solutions to set up and solve such stiffness equations, together with approximate "member" or finite element stiffness equations for parts of a structural continuum, were first developed in the 1950s, since when the finite element method has become widely accepted. The stiffness method of structural analysis, however, is only one aspect of the more general finite element approach to obtaining numerical solutions of partial differential equations.

Although many books have been written about the finite element method, there have been few attempts

to provide an undergraduate text. This is not really surprising, as the method draws on many disciplines, is not an easy subject to teach, and needs to include descriptions of physical principles involved in the method; interpolation theory; the forms of energy principles; algebra; numerical integration techniques for handling large quantities of data on computer; book, however, does not give a comprehensive text on the method, even for interested in applications to structural mechanics.

The ordering of ideas follows the historical development of the method from the direct method of structural analysis about three-quarters of the century concerned with the static analysis of linear structures to discrete members.

The modelling of continua is introduced using the triangular element. It is then derived, there is little doubt, the nature of the errors involved in such formulations. In although in-plane, four-noded, eight-noded, isoparametric and all elements are introduced and accuracy, such as the use of integration and optimal sampling, are not mentioned.

It is a difficult task to go teaching text for students of knowledge of either structural or matrix algebra. However, using a historical approach to structural analysis, the book during finite elements integrated theory is made even more difficult. By restricting the element problems described to those for a microcomputer, the book placed an unnecessary strain on what might have been a useful

R. J. Cunn

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BOOKS

Public doctrine

English Society 1688-1832: Ideology, social structure and political practice during the ancien regime
by J. C. D. Clark
Cambridge University Press, £30.00 and £10.95
ISBN 0 521 30922 0 and 31383 X

Like most historians, I feel more at home in the period before that of my own specialism than in the period that succeeds it. For most 17th-century historians the Tudor/Stuart period forms a unity, the age of Reformation and of personal monarchy, with a sensibility very different from that of the Hanoverians, an age of reason and incipient industrialization. English history seems indeed to move from Renaissance centripetal to Victorian centrifugal. The first and foremost achievement of Dr Clark's book is that he destroys that pattern. He forcefully rejects the notion that the 18th century needs to be understood as a prelude to 1832, and maintains instead that it is essentially a linear development from the Stuart age.

It is a difficult book in a high and a low sense. Although written with élan and precision, there is an intimidatingly mandarin quality about it and its agenda. Dr Clark imposes his own preoccupations in ways that produce puzzling progressions in the argument and in conceptualizations of key terms. Thus, anyone who buys this book expecting a rival to Roy Porter's *English Society in the Eighteenth Century* 1688-1832 is about a lot more and about a lot less than English society 1688-1832. It is a study in the history of ideas. It is a book about the survival, transmutation and persistence of the political, religious and socio-cultural values and preoccupations of divine right monarchy, patriarchy and Christian magistracy. It is, as the author himself calls it, "a revisionist tract", and it fulminates against generations of scholarship that see the 18th century as an age whose thought was dominated by a secularized Lockian contractarianism and by bourgeois individualism.

It was mainly the issues of allegiance and sovereignty, not representation and reform, which the American crisis raised and which dominated British politics in the 1770s and 1780s.

At the end of it all, one has to say that the book overstates an important case, breakthroughs in scholarship, like cavalry charges, tend to get out of

individualism. It is its very best in challenging the secularization of politics at two levels: it challenges the assumption that the political and socio-cultural thought of the period was secularized; and it challenges the methodology of those who acknowledge the persistence of religious discourse but whose treatment of it is so positivistic as to strip it of its essentially religious meaning and force within the rhetoric of the age. Dr Clark thrillingly demonstrates the centrality of "an ideology of theological politics" to the 18th century and with considerable effect argues that "all forms of radicalism in early modern England had a religious origin". He starts at every turn.

The book is always clever, if sometimes clever-clever. It is never dull, silly or routine. It needs to be read on Locke, Hume, Smith, Bentham; on Wesley; on popular religion; on honour and deference; on the universities; on the mirage of the industrial revolution. Its boldness is best captured in a collage of typical assertions:

"The agency of the State which confronted him in everyday life was not Parliament, reaching out as a machinery of representative democracy... but the Church, quartering the land not into a few hundred constituencies but into ten thousand parishes, impinging on the daily concerns of the great majority, supporting its black-coated intelligentsia, bidding for a monopoly of education, piety and political acceptability."

A sign of the intellectual vitality and strength of Orthodox churchmanship in the eighteenth century was its capacity to put forth new branches: Methodism and Evangelicalism. Both drew on the parent stem for aspects of their devotional practice and theology, and distinguished themselves from their parent by different emphases on, or selections from, elements in the common tradition. But what establishes the similar parentage of both movements is, above all, the fact that they inherited almost intact the political theology of mainstream Anglicanism.

John Morrill

Dr Morrill is fellow in history and tutor at Selwyn College, Cambridge.



Horace Walpole, as painted by Sir Joshua Reynolds in 1757, from Reynolds by Nicholas Penny (Waldenfeld & Nicholson, £20.00 and £10.95).

Dr Clark is more of an academic Prince Rupert than he is an academic Cromwell. One also senses some relief as he decapitates his opponents. I am far from persuaded that "England increasingly possessed a unified rather than a stratified patrimonial core". Surely the political culture of (Whig) aristocrats (note how that term comes for the first time to be a term of social - as against constitutional - reference in this period) and (Tory) squires (another neologism) are sharply divergent; and despite the effective demonstration that "an ideology of theological politics" did exist, it seems clear to me that there is also a mass of secularized discourse in genres of writings not treated here which do represent a shift of sensibility since the 17th century.

Every reader will argue with many things in this book. But it is as bold, as brave, as exciting a book as I have read on the 18th century this decade. It breaks the mould of Hanoverian politics.

John Morrill

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Nobility mobility

Crown and Nobility 1272-1461: political conflict in late Medieval England
by Anthony Tuck
Blackwell and Fontana, £22.50 and £4.95
ISBN 0 631 14826 4 and 00 686084 2

The series in which this book appears aims "to reinterpret familiar and unfamiliar aspects of English history" under the general editorship of Sir Geoffrey Elton. Dr Tuck's contribution can be classed among volumes devoted to the more familiar issues: the relationship between crown and nobility in the later Middle Ages is a well-worked area. Within these limits, the book is well-conceived and successfully executed.

Dr Tuck presents a balanced and concise account of English political history from the accession of Edward I to the downfall of Henry VI, and there are a number of useful insights on the way. He is particularly interesting on Edward II's reign, where the appearance and evolution of the idea of a peerage is singled out as an important, important practical contribution to the development of the belief that the commons represented the community of the realm. The significance of the management of domestic affairs whereby the crown became financially indebted to the higher nobility for the recruitment and organization of armies under Edward III is also rightly emphasized, and a view of the Hundred Years War as a "joint project" of both king and magnates under Edward III and Henry V is successfully sustained. Among other aspects of the early 15th century, Dr

Tuck emphasizes the influence of Clarence's expedition to France of 1412 on Henry VI's war policies, and throughout the Lancastrian section of the book English and French policies are effectively interwoven. All this is done well, and with considerable clarity.

Less successful, perhaps, is the balance between narrative and analysis. In so far as the book has major themes, they sometimes tend to be swamped by the intricacies of political and diplomatic narrative, especially during the period 1413-61. If one has a view on the attitude to foreign war - then it would have been helpful if a more detailed and protracted discussion of this issue could have been presented. Were 13th-century English barons and knights quite so averse to military service overseas as has been imagined? The career of William Marshal would hardly bear that out, and even Bohun and Bigod's outburst over foreign service in 1297 reflected baronial unwillingness to serve in an army where the king was not present in person rather than outright opposition to fighting abroad in any circumstances. If Edward III really did effect a revolution in baronial attitudes to foreign war, the origins of the process might be sought in Edward's military reorganization and in more gradual changes in the military ethos of the nobility.

One could also question the degree to which regional particularism played little or no part in determining the behaviour of the magnates in later medieval England. It was surely no coincidence that every major movement of baronial protest and rebellion from 1215 onwards was led by magnates with strong regional power-bases, and that the military strength of Marcher lords contributed so substantially to the success of those movements. Dr Tuck might have given some consideration to the possibility of sources of political power outside the king's

court. The households of Lancaster, Percy, Neville, Scrope or Bohun were not totally unlike the more regionally-based households of French nobles, and it is easy to exaggerate the degree to which power was concentrated around the king. Without a detailed analysis of the structure and functions of the royal court as a source of patronage, and an arena for both political activity and conspicuous consumption, generalizations should be treated with caution.

This lucid narrative will nevertheless prove a useful addition to the general literature about the period. The author makes suggestions for further detailed work on, for example, the effects of epidemics on English government in the mid-14th century, or the fate of Englishmen dispossessed of their lands in Normandy and Lancastrian France after the catastrophes of 1449-50. It is perhaps a pity that there is no chapter on the structure of the English nobility; some consideration of the role of the crown in attempting to control the distribution of land and wealth among its members might also have been helpful. The few pages on "the King and the nobles" under Edward III are most welcome, but much more could have been said about changes in attitude and social stratification within the nobility between 1272 and 1461. A more detailed account of the development of tenurial devices such as the entail and the use might also have helped to explain some of the political behaviour. But Dr Tuck's theme is political conflict, and it would be unrealistic to expect a socio-economic, let alone cultural, study in a book of this kind. As a contribution to political history intended for the student and general reader, *Crown and Nobility* will be most useful.

Malcolm Vale

Dr Vale is a fellow of St John's College, Oxford.

Conspiracy theory

The Great Arch: English state formation as cultural revolution
by Philip Corrigan and Derek Sayer
Blackwell, £25.00 and £8.95
ISBN 0 631 14054 9 and 14055 7

Historical sociology has always been empirically weak. This is not altogether surprising for a discipline whose principal concern is the present. When Marx and Weber produced their masterly analyses of late 19th-century society, they used historical examples to illustrate rather than to prove their social theories. In an intellectual world still dominated by classical learning, the past gave a pedigree to radically new visions of social organization. But it also gave hostages to fortune. Their social critique was attacked on the basis of its shallow historical foundations. Marx, for his proletarianism, Weber for his narrowness; both for their inability to understand the complexities of past societies.

In the end, their weaknesses as historians had no bearing on their strengths as social theorists. But in an exercise that Marx might have labelled the intellectual equivalent of the fetishism of commodities, disciples became preoccupied with proving that these genuine contemporary insights could be supported by historical evidence. Faced with the challenge "Provide references!" to statements like "The history of all hitherto existing societies is the history of class struggle," historians and sociologists have actually gone about the task. This has had the unintended consequence of encouraging some modern social theorists to attempt to disguise contemporary political errors by dressing it up as historical argumentation.

In *The Great Arch*, Philip Corrigan and Derek Sayer assert the proposition that state formation is cultural revolution and illustrate it by surveying English history from the Conquest to the present in 165 pages. Their starting point is the miners' strike of 1984 and they appear to be concerned in why certain types of political behaviour are deemed legitimate and others not. They are particularly frustrated by the fact that the ancient forms of parliament and the legal system command respect while equally long-lived appeals to violent mass action do not.

Their theoretical starting-point is the belief that the state is a cultural conspiracy, repressing less by actual force than by mystification. In emphasizing cultural forms over political ones, the authors opt for a crude application of Gramsci's notion of hegemony, maintaining his emphasis upon the superstructure rather than the base of social organization. Though it is hard to see how they have answered the Althusserian critique that all superstructural forms are overdetermined, they explicitly reject this. But then Althusser never had Nottinghamshire miners to explain.

The authors take as an article of faith that the state is imposed upon society rather than develops from it. Their inspiration is an observation by Philip Abrams, that the state is "first and foremost an exercise in legitimation - and what is being legitimated is, we may assume, something which is seen directly and as itself would be illegitimate, an unacceptable domination. Why else all the legitimization-work?" This notion that legitimization constitutes rather than replicates, that it is thrust upon the unwary, is all the more remarkable in a book which opens with a legitimizing foreword by the president of the Royal Historical Society.

Corrigan and Sayer attempt to illustrate the constituting power of legitimization by selecting for historical examination those enduring mechanisms of the state, parliament and the law. They ruthlessly expose the fact that neither was based upon modern Utopian views of equality and justice. In the middle ages and the early modern period, both parliament and the legal system were elite institutions dominated by males. They developed forms and rituals that emphasized representation and equality while actually preserving restricted participation and inequality. Nor did this change as the centuries progressed; even today women and the poor do not constitute a majority of MPs or magistrates.

The historical knowledge upon which these conclusions are based might fairly be described as A level. Like all historical sociologists, Corrigan and Sayer believe that historians are history: they use secondary works as primary sources. In their case, they take the process a step further by relying for most of the information about the first 750 years of their period upon textbooks and, wherever possible, on textbooks written by Marxists.

Christopher Hill is the predominant authority cited on all subjects from the middle ages to the 18th century, even gaining credit for Sir Maurice Powick's famous dictum that the Reformation was an act of state. Perhaps the most interesting thing that emerges from their superficial survey is the barrenness of the Marxist view of the Elizabethan age. Most historians might have posited the half-century between 1570 and 1620 as the focal point of legitimizing parliament and the legal system, rather than as a period of "conservation" as Corrigan and Sayer describe it. The period 1688 to 1780 is similarly mislabeled, again for lack of a clear Marxist consensus about an era still dominated by the work of Plumb and Namier.

Ultimately, their theory of legitimization depends not upon the historical material they culled, but upon their assumption that the state is at all times unrepresentative and unjust. Though they insist upon arguing that the state maintains its repressive existence through cultural forms rather than brute force, they provide little insight into how this is done. Like many historians of far more heterodox views, Corrigan and Sayer are influenced by the work of Edward Thompson. They might have profited more had they pondered less his musings about the great arch and taken seriously his provocative insight: "People are not as stupid as some structuralist philosophers suppose them to be. They will not be mystified by the first man who puts on a wig."

Mark Kishlansky

Mark Kishlansky is professor of history at the University of Chicago.

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HARVARD

Motor commands

The Brain Machine: the development of neurophysiological thought
by Marc Jeannerod
Harvard University Press, £14.50
ISBN 0 674 08047 5

During the past few decades, our understanding of perception has been considerably advanced; corresponding progress has not been made with the motor system. *The Brain Machine* gives a historical account of the contrasting schools that have worked on the generation and control of voluntary movements.

One opposition was that between vitalists and reflexologists, between those who postulated a mental force underlying movement and those who thought all movement was triggered by a stimulus and was therefore merely a reflex, however complex. Descartes had it both ways, since he believed that animal movements were purely mechanistic, while in people he allowed the homunculus to intervene.

In the 17th century, Robert Whytt and others repeated Leonardo da Vinci's demonstration that a decapitated frog could produce complex though often imperfect movements, but only when stimulated - a considerable coup for the reflexologists. The tables were to some extent turned when Flourens in 1825 reversed the positions of the muscles on a chicken's wing and found that the bird could still fly.

Schneider and Pavlov were confirmed reflexologists. Sigmund Freud and Charles Sherrington were equally confirmed vitalists, although by this time vitalism was taking on a physiological guise. Freud invented a special

class of neurons (psi neurons) that spontaneously discharged stores of energy and Sherrington vaguely referred to the lumen of the brain where almost everything was connected to everything else. It seems curious that it took so long for the reflexologists to notice that many actions are not under stimulus control in that they depend on the state of the person. Konrad Lorenz (and, one might add, even more so the behaviourists) tried to circumvent this problem by postulating internal stimuli, a thoroughly confusing concept.

Marc Jeannerod has written an interesting and scholarly book, and his sketch of the study of voluntary movement is fascinating. Unfortunately, like many of those whose work he describes, he seems to confuse the unanswered but answerable question of how the brain controls movement with the unanswered and unanswerable question of how consciousness and the will enter into movement control. Thus, he objects to Erick von Holst's postulation of neural oscillators to explain why organisms behave differently at different times, on the grounds that "such a physiology of spontaneity gives a singularly limited explanation", for it only explains "the automatic aspects of behaviour."

His own efforts to overcome this problem are set out in the last chapter, which is the only disappointing part of the book. He bases his solution on the work of von Holst and Richard Held. Von Holst proposed that, when an organism makes a movement, a copy of the motor command is sent to the sensory system. If the sensation of movement received back corresponds exactly to that which would be expected from the movement made, the sensation is cancelled by the motor command copy, thus ensuring that the organism will not confuse a movement on the receptors produced by an object moving (exteroception) with one caused by a self-initiated movement of its own

body (interoception). Subsequently, Held performed some ingenious experiments in which subjects were prisms that shifted the world on their eyes through about 12 degrees; he found that, provided the subjects moved actively while wearing the prisms, they adapted to them and came to reach for objects in the correct direction. He proposed that when refference consistently differs from that normally following a given motor command, the new relationship between the two is learned, thus changing the conduction function and ensuring adaptation to distortions of vision. But just as Flourens helped to discredit reflexology, so Charles Huxley (and numerous others) have shown that Held's explanation is incorrect: the main change underlying prism adaptation seems to be a change in the felt position of the parts of the body with respect to their position in the visual field. Unfortunately, Jeannerod makes no mention of Huxley but simply accepts Held's theory. He then makes the further and most implausible assumption that all learning is based on active motion.

He concludes: "It is not the environment which solicits the nervous system, moulds it, or reveals it... On the contrary, it is the subject and his brain, which question the environment, inhabit it little by little, and finally master it." Apart from the fact that this is surely a false analogy, it does nothing to answer the question how far the organism's activities can be accounted for in purely physiological terms or how far some *vis nervosa* is needed. The philosophical debate will continue long after all the neurophysiological problems have been solved.

Stuart Sutherland

Professor Sutherland is director of the Centre for Research on Perception and Cognition.

Genetic elites?

Essentials of Behaviour Genetics
by David A. Hay
Blackwell Scientific, £15.80
ISBN 0 86793 064 0

The task of behaviour geneticists is to provide an understanding of the extent to which individual differences in behaviour are influenced by the genes inherited from parents and the environmental circumstances of upbringing.

For a relatively new science, recognized as a distinct discipline only since the publication of the first textbook on the subject in 1960, it has seen more than its fair share of controversy. Clearly, it has implications for racial

social and educational issues, about which people have deep-seated and genuine differences of view: heredity, after all, is what tends to be discounted when offspring fail to match parental expectations. Unfortunately, however, many people have come to associate behaviour genetics only with publicized controversies over whether genes contribute to differences in human intelligence and scholastic ability, thus overlooking the importance of genetics in gaining a clearer understanding of the origins and importance of certain kinds of heritable mental disorders, as well as more familiar differences between individuals in personality. Perhaps it is time to dispose of the myth that there could be hereditary genetic elites based on superior mental ability in human society: children of genetically-gifted parents are on average less able than they are, whereas the children of genetically less well-endowed parents on average excel them.

There is widespread misunderstanding of what it is that is actually inherited, which this book should do much to put right. The mode of inheritance of chromosomes and genes is carefully explained and illustrated with examples developed within the context of mental retardation in humans. This should hold the attention of geneticists while introducing basic genetic principles to psychologists. There is a concise treatment of some of the more important recent developments in the behaviour genetics of lower organisms, rodents and other animals - valuable experimental systems that help unravel the links between genes and behaviour and determine how nervous systems actually work.

The major part of the book is devoted to a critical exposition of the genetics of human behaviour, in which Hay provides a balanced perspective on the controversy over IQ and directs attention to the broader investigation

of cognitive skills and their development. Here, he has some strictures for behaviour geneticists who have, he feels, been slow to exploit developments in cognitive psychology by employing Piagetian tests or by analysing the strategies used for solving test problems. Hay also outlines some approaches to the genetics of individual differences in personality and temperament, and provides a concise discussion of heritable mental disorders.

Hay argues that behaviour genetics has ignored most of the developments in genetics since 1950 and that the subject has no glamorous role in new scientific innovations but only a pedestrian function in improving experiment and theory - a view with which few behaviour geneticists are likely to agree. Since his book went to press, for example, a gene controlling normal rhythmic activity in the fruit fly has been isolated, cloned in bacterial cells and then used to transform ornamental

mutant flies defective behaviour to normal activity: he is an indication of the methods of gene transfer, types of genetic behaviour.

As for the general question of whether there can be an inherited behavioural component, Hay is clearly with human behaviour. He is particularly interesting on Edward II's reign, where the appearance and evolution of the idea of a peerage is singled out as an important, important practical contribution to the development of the belief that the commons represented the community of the realm. The significance of the management of domestic affairs whereby the crown became financially indebted to the higher nobility for the recruitment and organization of armies under Edward III is also rightly emphasized, and a view of the Hundred Years War as a "joint project" of both king and magnates under Edward III and Henry V is successfully sustained. Among other aspects of the early 15th century, Dr

Barrie Burnet

Barrie Burnet is reader in genetics at the University of Sheffield.

Appointments

The Secretary of State for Education and Science has announced the appointment of Mr Jack McDowall as chairman of the governing body of the Further Education Staff College, and of Mr Joslyn Owen, chief education officer of Devon, as chairman of the Further Education Unit. The London School of Economics has elected nine new governors: Mr Michael Angus, vice chairman, Unilever plc; Mr Frank Dobson, MP; Lady Howe; Mr David Goldstone, Regalian Properties plc; Mr Maurice Sautch; Mrs Virginia Boulton; Mr Professor Ralf Dahrendorf; Mr John Edmonds, general secretary, OMBATU; Dr William Flounders, director general, Royal Institute of Public Administration.

The Agricultural and Food Research Council has appointed the first two directors of research, who will oversee new research divisions created in a reorganization of AFRC institutes. Professor Frank Curtis will become director of food research and Dr Terence Swinburne will assume control of the council's horticultural research. Professor Curtis is director of the AFRC's Food Research Institute and Dr Swinburne is head of the crop protection division at the East Malling Research Station. Professor Wang Gungwu, currently of the Australian National University, is to be the new vice chancellor of the University of Hong Kong. The University of Kent at Canterbury has announced the appointment of Dr Arnold Goldman, assistant chief officer of the Council for National Academic Awards and formerly professor of American studies in the University of Keele, to an honorary professorship in American studies.

LIVERPOOL

Lectureships: Clive A. Lees (Anglo-Saxon—special appointments); P. W. Simpson (English language and literature); E. J. Smith (French); Penelope Harvey (modern languages); D. J. Clarke (music—temporary); M. J. Fisher (chemistry); D. L. Cooper (inorganic, physical and industrial chemistry); J. A. Igo (inorganic, physical and industrial chemistry); R. E. Holdsworth (geological sciences); Kathleen Johnson (inorganic, physical and industrial chemistry); P. J. Slodowy (pure mathematics); I. B. Dainton (physics); W. G. Scott (physics); D. W. Thomas (statistics and computational mathematics); Linda Tippler (nursing studies); G. N. Russell (mathematics); N. Marlow (child health); S. S. Graham (general practice); A. T. McWilliams (general practice); A. C. Swift (otitis-rhinolaryngology); I. C. Edwards (parasitology/pharmacology and therapeutics); Carol Meakin (surgery); Brian Lynch (anatomy); S. Hall (electrical engineering and electronics); J. C. Hitchman (mechanical engineering—temporary); D. J. Eaglesham (metallurgy and materials science); R. Morris (veterinary anatomy); Judith Hunt (veterinary clinical science); Helena Rutgers (veterinary clinical science); A. J. Webb (veterinary clinical science—temporary); J. Lewis (architecture and building engineering—temporary); Elizabeth Evans (economic and business studies); Y. S. Katsouras (economic and business studies); P. O'Connor (economic and business studies); T. W. Parfitt (political theory and institutions—temporary); Helen Jones (sociology—temporary).

Events

The international conference of Information Technology in Higher Education is to be held in Glasgow between September 2 and 5. For details, contact Dr David Nichol, University of Strathclyde, Educational Methods, Turnbull Building, 155 George Street, G1 1RD, telephone 041 552 4400 x2637.

The 20th annual conference of the Association for Educational and Training Technology will be hosted by Napier College, Edinburgh, and held at the Riccarton campus of Heriot-Watt University from April 8 to 11. This year's theme is "Flexible Learning Systems". Full details from Dr F. Percival, Napier College, Colinton Road, Edinburgh EH10 5DT or on 031 447 7070 x572573.

The second national conference on production research will be held at 12. For details and registration, contact Mr J. Murray at the above address or phone number, extension 2595. Luton College of Higher Education, in conjunction with the Science Technol-

Honorary degrees

LIVERPOOL
DD: Professor Dr Martin Hengel, professor of New Testament and early Judaism at the University of Tübingen.
DCL: Sir Shridath Surendranath

Ramphal, secretary-general of the Commonwealth; Dr Peter Reynolds, deputy chairman of ICI Ltd agricultural division until 1975, member of council of university from 1971 and chairman from 1978. MA: Mr Cyril Christie, deputy treasurer of university from 1980 to 1985.
OXFORD
DCL: Brian Urquhart, under-secretary of the United Nations;

Dame Cicely Saunders, medical director of St Christopher's Hospice. DLit: Professor Monolis Andronikos, professor of archaeology in the University of Thessaloniki; Dr Elisabeth Labrousse, honorary director of research at the Centre National de Recherche Scientifique, Paris; Professor Robert Merton, emeritus professor of sociology in Columbia University, New York.

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The London Underground has its own special microculture, distinctively compounded of buskers, roller-skaters, the station walls themselves. Over the years, London Transport has been a generous patron to graphic designers, many of whom remain anonymous.

The London Transport Museum in Wellington Street, WC2, has mounted a new exhibition of poster work by women artists, including Dame Laura Knight and Mabel

Lucie Attwell, but also introducing less familiar names such as Kate Burrell (above right) and the splendidly named Dora Batty (above left). At the same time, a group called "Poems on the Underground" are planning to post poems in tube stations. The first group includes Burns, Grace Nichols, Seamus Heaney, William Carlos Williams and Shelley. Details from Judith Cherniak, 124 Mansfield Road, London NW3.

Open University viewing

Saturday January 25

9.00-11.00 Science foundation course. Preparatory maths (S101) (3M).

11.00 Open forum. Information programme for OU students.

11.25 Open forum. Leonardo da Vinci lecture (OU students).

12.15 Introduction to marketing. If the customer's happy (P071).

12.40 Understanding pregnancy. Pregnancy—a time gone (P02).

13.05 Biochemistry. Civilisation, place your bets. (P021); 6).

Sunday January 26

9.00-11.00 Quality engineering, quality systems. Customers—quality and competition. (P072).

10.30 International marketing. Getting paid. (P072).

11.00 Arts foundation course. Prospect for students and tutors of A101. (A101); 0).

RADIO 4 (VHF)

06.55 Open forum. Information programme for OU students.

ogy and Society Association and the Royal Society of Chemistry, is to hold a one day meeting on "The Public Understanding of Science" at Park Square, Luton, on February 28. Details from S.D. Vazquez, Luton College of HE, Park Square LU1 3JU.

The third International Manufacturing Conference, entitled "Industry Year—Industry Matters", organized by the Institution of Production Engineers will be held at Olympia, London, from July 1 to 4. For full details contact The Manager (Conference and Exhibitions), Rochester House, 66 Little Ealing Lane, London W5 4XX or ring 01-574 9411.

Grants

EXETER
Centre for Arab Gulf Studies, £425,000 from Government of Oman (excludes of the Gulf); Dr R. C. T. Slade, £38,019 from Atomic Energy Establishment (cobalt incorporation into spinal oxides on stainless steels and incoals); Dr R. Cullingford and Dr C. Shaw, £15,482 from Manpower Services Commission (computer based planning atlas of Exeter); Dr R. V. H. Jones, £25,960 from Cancer Research Campaign (cancer in the community); Dr B. A. Turner, and Dr D. I. Blockley, £42,555 from SERC (engineering failures development of safety knowledge); Dr R. Moodie, £29,485 from MoD (aromatic nitration with dinitrogen pentoxide); Professor J. C. Inkson, £42,923 from MoD (theoretical work into properties of quantum well super lattices); Dr M. R. Belmont, £22,274 from Leverhulme Trust (educational project in engineering and design); Dr H. Stebbings, £31,980 from SERC (mechanism of microtubule associated intracellular transport); Dr M. R. Belmont, Dr J. I. Henshall and Dr M. Hollingshead, £43,070 from SERC (studies of end substituted syntheses alkanes).

Chairs
The University of York has announced the appointment of Dr Peter Lloyd's Registrar as senior lecturer in the College of Swanswick, based in the department of architecture and design. Professor Geoffrey Lloyd, head of the school of architecture, is to be the industrial design chair in the University of York.

Publications
Teaching Academic 1 Adult: Continuing Education is the first of a series of pamphlets published by the University of York. The first pamphlet is entitled "The University of York: A History of the University of York". The second pamphlet is entitled "The University of York: A History of the University of York". The third pamphlet is entitled "The University of York: A History of the University of York".

Awards
Professor John R. B. is professor in the school of studies, University of Birmingham. He has been elected to a honorary fellowship by the University of Birmingham.

Promotions
LIVERPOOL
Senior lecturer in the school of studies, University of Liverpool, has been promoted to senior lecturer in the school of studies, University of Liverpool.

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Universities

UNIVERSITY OF ZIMBABWE

Applications are invited for the following posts:

Industrial and Mining Liaison Officer: Faculty of Engineering (Lectureship/Senior Lectureship). The Industrial and Mining Liaison Officer will be required to plan, supervise, monitor and record the 18 weeks' practical vacation work of every student in the Faculty of Engineering. This will be undertaken in close liaison with the Senior Assistant Registrar, Engineering, and all employers. The appointee will also be expected to liaise closely with the staff responsible for the vacation work, to ensure that the work is carried out in a safe and efficient manner, and to report on the progress of the work to the Faculty of Engineering.

Lectureship/Senior Lectureship/Associate Professorships: Department of Electrical Engineering. Applicants should have a good third degree in Electrical Engineering and at least five years' practical and teaching experience. Corporate status in a Chartered Engineering Institution and a postgraduate degree will be an added qualification. The appointee will be required to lecture at third and final year levels in the field of electrical power systems, and to undertake research in this area.

Department of Chemistry: Applicants should hold a Ph.D. in Analytical Chemistry. The successful candidate will be expected to teach analytical chemistry at both undergraduate and postgraduate levels. Applicants with experience in analytical spectroscopy and instrumentation may be preferred.

Faculty of Agriculture (Economics, Statistics or Biometrics): Candidates should have an appropriate degree level qualification with a major in economics, statistics or biometrics, plus adequate practical and scientific experience in agricultural science. The appointee will be required to teach and supervise students in the Faculty of Agriculture. A postgraduate degree in the relevant field will be an added qualification. Applicants should have a good third degree in the relevant field, and at least five years' practical and teaching experience. Corporate status in a Chartered Engineering Institution and a postgraduate degree will be an added qualification. The appointee will be required to lecture at third and final year levels in the field of electrical power systems, and to undertake research in this area.

Department of Clinical Veterinary Studies (6 posts): Post A — Epidemiology. The appointee will be expected to teach epidemiology and preventive medicine to students in the two clinical years and carry out relevant investigative research. A postgraduate degree in epidemiology and preventive medicine will be an added qualification. Post B and Post C — Large Animal Medicine (2 posts). The appointee will be expected to teach large animal medicine to students in the two clinical years and join a team engaged in providing a referral investigation service for disease problems in horses and cattle. The appointee will be required to undertake research in the field of large animal medicine and to provide a referral investigation service for disease problems in horses and cattle. The appointee will be required to undertake research in the field of large animal medicine and to provide a referral investigation service for disease problems in horses and cattle.

Department of Anaesthetics: Applicants should have a degree in Nursing (preferably at Master's degree level or above) with varied Clinical Nursing experience of at least 3 years plus teaching experience. Africa experience will be an added advantage. Candidates should be competent to teach post basic students in various Nursing subjects including periodic field supervision.

Research Fellowship — Centre for Applied Social Sciences (2 Posts): Post A: This post will be attached to the Centre's research unit on the management of resources. The appointee will be required to undertake research in the field of resource management and to provide a referral investigation service for disease problems in horses and cattle. The appointee will be required to undertake research in the field of resource management and to provide a referral investigation service for disease problems in horses and cattle.

Salary Scale: (Non-Local): Lecturer 2313,212-2321,676; Senior Lecturer 2322,128-2328,178; Associate Professor 2329,680-2338,600; Senior Lecturer 2329,680-2338,148; Associate Professor 2329,680-2338,600.

Conditions of Service: Both permanent and short-term contracts are offered. Persons who are not Zimbabwean citizens may be appointed only on short-term contracts but with an initial period of two years (though in some instances opportunities in the Faculty of Veterinary Science may be offered five-year contracts). Short-term contracts may, in exceptional cases, be extended.

Site copies of applications, giving full personal particulars, which should include full name, place and date of birth, qualifications, experience and addresses of three referees, should be sent to the Director, Appointments and Personnel, University of Zimbabwe, PO Box 467, Mount Pleasant, Harare, Zimbabwe (Tel: 4-102 240).

Candidates in the UK should also send an additional copy of their applications to the Secretary General, Association of Commonwealth Universities (ACU), 38 Gordon Square, London WC1H 0PE, from whom further particulars are available.



Applications are invited for the following posts:

Chair of Biology: The Chair will be held in Animal Biology. The appointee will be required to teach and supervise students in the Faculty of Biology. A postgraduate degree in the relevant field will be an added qualification. Applicants should have a good third degree in the relevant field, and at least five years' practical and teaching experience. Corporate status in a Chartered Engineering Institution and a postgraduate degree will be an added qualification. The appointee will be required to lecture at third and final year levels in the field of electrical power systems, and to undertake research in this area.

Chair in the Department of Government and Public Administration: The appointee will be required to teach and supervise students in the Faculty of Government and Public Administration. A postgraduate degree in the relevant field will be an added qualification. Applicants should have a good third degree in the relevant field, and at least five years' practical and teaching experience. Corporate status in a Chartered Engineering Institution and a postgraduate degree will be an added qualification. The appointee will be required to lecture at third and final year levels in the field of electrical power systems, and to undertake research in this area.

Chair in the Department of Computer Science: The appointee will be required to teach and supervise students in the Faculty of Computer Science. A postgraduate degree in the relevant field will be an added qualification. Applicants should have a good third degree in the relevant field, and at least five years' practical and teaching experience. Corporate status in a Chartered Engineering Institution and a postgraduate degree will be an added qualification. The appointee will be required to lecture at third and final year levels in the field of electrical power systems, and to undertake research in this area.

Chair in the Department of Mathematics: The appointee will be required to teach and supervise students in the Faculty of Mathematics. A postgraduate degree in the relevant field will be an added qualification. Applicants should have a good third degree in the relevant field, and at least five years' practical and teaching experience. Corporate status in a Chartered Engineering Institution and a postgraduate degree will be an added qualification. The appointee will be required to lecture at third and final year levels in the field of electrical power systems, and to undertake research in this area.

Chair in the Department of Physics: The appointee will be required to teach and supervise students in the Faculty of Physics. A postgraduate degree in the relevant field will be an added qualification. Applicants should have a good third degree in the relevant field, and at least five years' practical and teaching experience. Corporate status in a Chartered Engineering Institution and a postgraduate degree will be an added qualification. The appointee will be required to lecture at third and final year levels in the field of electrical power systems, and to undertake research in this area.

Chair in the Department of Chemistry: The appointee will be required to teach and supervise students in the Faculty of Chemistry. A postgraduate degree in the relevant field will be an added qualification. Applicants should have a good third degree in the relevant field, and at least five years' practical and teaching experience. Corporate status in a Chartered Engineering Institution and a postgraduate degree will be an added qualification. The appointee will be required to lecture at third and final year levels in the field of electrical power systems, and to undertake research in this area.

Chair in the Department of Biology: The appointee will be required to teach and supervise students in the Faculty of Biology. A postgraduate degree in the relevant field will be an added qualification. Applicants should have a good third degree in the relevant field, and at least five years' practical and teaching experience. Corporate status in a Chartered Engineering Institution and a postgraduate degree will be an added qualification. The appointee will be required to lecture at third and final year levels in the field of electrical power systems, and to undertake research in this area.

Chair in the Department of Mathematics: The appointee will be required to teach and supervise students in the Faculty of Mathematics. A postgraduate degree in the relevant field will be an added qualification. Applicants should have a good third degree in the relevant field, and at least five years' practical and teaching experience. Corporate status in a Chartered Engineering Institution and a postgraduate degree will be an added qualification. The appointee will be required to lecture at third and final year levels in the field of electrical power systems, and to undertake research in this area.

Chair in the Department of Physics: The appointee will be required to teach and supervise students in the Faculty of Physics. A postgraduate degree in the relevant field will be an added qualification. Applicants should have a good third degree in the relevant field, and at least five years' practical and teaching experience. Corporate status in a Chartered Engineering Institution and a postgraduate degree will be an added qualification. The appointee will be required to lecture at third and final year levels in the field of electrical power systems, and to undertake research in this area.

Appointments

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Colleges with
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Colleges and
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UNIVERSITY OF STIRLING

Department of Computing Science

PROFESSOR TWO LECTURERS

The University seeks applications for a new Chair in Computing Science from candidates with an established research record in any area of the discipline, including microelectronics. In addition applicants are sought for two new lectureships.

The successful candidates will join a department with an already established reputation for research in software engineering and with substantial new funding for growth in this and other areas of the discipline.

For further particulars please write to Mr R.G. Bomont, University Secretary, University of Stirling, Stirling FK9 4LA to whom applications should be sent to arrive not later than 21st February, 1986.

GRIFFITH UNIVERSITY

Science, Technology and Society

LECTURER

One 3 year fixed term position
Reference F2/86

A new appointment is available in the area of Science, Technology and Society (STS). The STS programme presently covers a broad range of studies of the social, historical, economic, political and philosophical dimensions of science and technology. Additional undergraduate courses are currently being planned.

It is intended that the appointee's teaching duties will include contributions to the undergraduate courses and the coursework M.Sc. programme. It is expected that the appointee will encourage and participate in postgraduate research supervision. Collaboration in group and interdisciplinary research projects is also encouraged.

The position will become available on 1st July, 1986. Salary will be in the range AS27,233 to AS35,777 per annum. It is anticipated that the appointment will be made within the lower half of this range. Applications, including curriculum vitae with names of two referees, should reach:

The School Administrator, School of Science, Griffith University, Nathan, Qld. 4111. AUSTRALIA by Tuesday, 26 February, 1986. Further details of the appointment are available from the same address.

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Colleges of Higher Education continued

ESSEX INSTITUTE OF HIGHER EDUCATION

CABLE & WIRELESS READERSHIP in Telecommunication Systems

SALARY: £14,013 - £17,619

Applications are invited for this post in the School of Technology. The post has been established to assist in the further development of the research and course links between the Cable & Wireless Telecommunications College and the Institute.

The post will involve research and development in liaison with Cable & Wireless and a contribution to teaching higher level courses. In addition the person appointed would be expected to take an active role in identifying and obtaining external funding to assist in the development of research and teaching associated with Telecommunications.

Candidates should be appropriately qualified and have substantial research/development experience in Telecommunications. Some teaching experience and a knowledge of higher education is desirable but not essential and relevant industrial experience would be an advantage.

The post is available immediately but the date of appointment would be a matter for negotiation.

Further details and application forms, returnable by 7 February 1986, may be obtained from the Personnel Officer, Essex Institute of Higher Education, Victoria Road South, Chelmsford CM1 1LL, Essex.

SCHOOL OF LAW

PRINCIPAL LECTURER IN LAW

The Principal Lecturer will be expected to play a major part in the academic and administrative organisation of the School. The post offers an exciting opportunity within a large established law school.

Application forms and further details from the Personnel Office, Essex Institute of Higher Education, Victoria Road South, Chelmsford CM1 1LL. Telephone Chelmsford 354491 Extension 247.

Closing date: 6 February 1986.

Royal County of Berkshire

Principal Slough College of Higher Education

Group VIII

SALARY: £26,022 inclusive of area allowance.

Applications are invited for this post tenable from 1st September 1986. The College is a major institution of higher education, providing a range of vocational advanced programmes appropriate to the thriving Thames Valley region.

For application forms and details please write to:

Clerk to the Governing Body
Slough College of Higher Education
Wellington Street
SLOUGH SL1 1YG

Closing date: 14th February 1986

An equal opportunities employer

Slough College

WESTMINSTER COLLEGE OXFORD

Applications are invited from suitably qualified people for the following important posts in this expanding College of Higher Education with effect from 1st September 1986.

PRINCIPAL LECTURER IN PRIMARY EDUCATION

The successful applicant will have responsibility for the co-ordination and development of programmes relating to the 5-12 age range, both in initial and in-service training.

PRINCIPAL LECTURER/COURSE LEADER POSTGRADUATE CERTIFICATE IN EDUCATION

The successful applicant will have responsibility for the management and development of the course. The College would particularly welcome applications from those with experience in management education.

Further details may be obtained from the Principal's Secretary, Westminster College, North Hinksey, Oxford OX2 8AT (telephone number 0865 247644) to whom all applications, together with full curriculum vitae, and the names, addresses and telephone numbers of two referees should be sent.

The closing date for receipt of completed applications is the 14th February 1986.

Kent County Council Education Committee

Mid-Kent College of Higher and Further Education

DEPARTMENT OF MECHANICAL AND PRODUCTION AND ENGINEERING

SENIOR LECTURER

Salary Scale £11958 - £14046 - £15045

A Graduate is required to join an enthusiastic team that has established regional status in Computer Aided Engineering and Open Access Learning for Adult Upgrading and Retraining.

Candidates will be required to contribute to normal teaching programmes and become actively involved in new developments.

Further details and application form available from the Principal, Mid-Kent College of Higher & Further Education, Horsted, Maidstone Road, Chatham, Kent to whom completed applications should be returned by 3 February 1986.

(74203)

S. MARTIN'S COLLEGE OF HIGHER EDUCATION LANCASTER

VICE-PRINCIPAL (Group 6)

Applications are invited from suitably qualified and experienced persons for the post of Vice-Principal at this Church of England College of Higher Education from 1st September 1986.

Application forms and further details may be obtained from The Principal, S. Martin's College, Lancaster LA1 3JD

Application forms should be returned by 14 February.

King Alfred's College Winchester

HEAD OF CRAFT, DESIGN AND TECHNOLOGY

Applications are invited from well-qualified graduates for the following posts:

HEAD OF SCHOOL (Grade 6)

£18,618 - £20,511 p.a.

This is a challenging post for a person who is keen to lead a lively and successful team engaged in initial teacher education courses, mainly related to the primary sector, and in a wide range of in-service training programmes.

Application forms and further details from the Personnel Office, King Alfred's College, Winchester SO9 4AB. Tel: 01252 448000.

Closing date: 3rd February 1986.

(74179)

Hampshire County Council Southampton Institute of Higher Education

DEPARTMENT OF SYSTEMS AND COMMUNICATIONS ENGINEERING

LECTURER II/ SENIOR LECTURER IN ELECTRONICS

Applicants should possess a higher qualification and be teaching in one or more of the following areas: Instrumentation and Control, Radio Communications, Engineering, Computer Technology, Recent industrial experience or a research interest would be an advantage.

Salary Scale: Lecturer II £8,076 - £10,945; Senior Lecturer £11,958 - £15,045 (bar £14,046).

Application forms and further details available from the Personnel Officer, Southampton Institute of Higher Education, East Park Terrace, Southampton, Hants, SO9 4AB. Tel: 07031 293381. Ext. 312.

The closing date for applications is 1 February 1986.

(50225)

Canterbury Christ Church College of Higher Education

LECTURER II/ SENIOR LECTURER AND TEACHER ADVISER IN BUSINESS EDUCATION

(with effect from 1 April 1986, if possible)

This is a joint appointment in association with the Kent Education Committee. Candidates should have a degree in business education, establishing a research interest in business education and with the teaching courses offered by the College.

The college has approximately 1,000 students and offers B.A., B.Sc. and B.Ed. degrees, plus a variety of diploma and higher degree courses.

Salary scale: Lecturer II £8,076 - £10,945; Senior Lecturer £11,958 - £15,045.

For further details write to the Principal's Secretary, Christ Church College, Canterbury, Kent CT1 3AQ. Tel: 01843 241111.

County of Avon Bath College of Higher Education

LECTURER II (Fixed-term Contract)

Required for 17th January to 30th June 1986 to assist in the development of a new course in the Department of Design and Technology. The successful candidate will be responsible for the design and development of the course, and will be expected to contribute to the teaching of the course.

Applicants should have a degree in design and technology, and should have experience in the design and development of courses. They should also have experience in the teaching of design and technology.

Applicants should send their curriculum vitae, together with the names and addresses of two referees, to the Principal, Bath College of Higher Education, Newton Park, Bath BA2 9NN. Tel: 01225 391700.

(74179)

Research and Studentships continued

Imperial College Department of Computing

RESEARCH ASSISTANT

A Research Assistant is required for an Alvey/SEAC funded project in the area of Formal Methods for Declarative Languages. The project will investigate logical and declarative aspects of the theory and practice of declarative programming languages, as a basis for generalised program logic.

Applicants should have a degree in computer science or a related subject, and should have experience in the theory and practice of declarative programming languages. They should also have experience in the teaching of computer science.

Applicants should send their curriculum vitae, together with the names and addresses of two referees, to the Principal, Imperial College, London SW7 2BZ. Tel: 0181 275 9611.

(74179)

University of Liverpool

RESEARCH ASSOCIATE

Applicants should have a degree in computer science or a related subject, and should have experience in the theory and practice of declarative programming languages. They should also have experience in the teaching of computer science.

Applicants should send their curriculum vitae, together with the names and addresses of two referees, to the Principal, University of Liverpool, Liverpool L69 3GB. Tel: 0151 275 9611.

(74179)

University of Aberdeen

RESEARCH ASSISTANT/FELLOW

Applicants should have a degree in computer science or a related subject, and should have experience in the theory and practice of declarative programming languages. They should also have experience in the teaching of computer science.

Applicants should send their curriculum vitae, together with the names and addresses of two referees, to the Principal, University of Aberdeen, Aberdeen AB9 8QY. Tel: 01224 391700.

(74179)

University of York

RESEARCH ASSISTANT

Applicants should have a degree in computer science or a related subject, and should have experience in the theory and practice of declarative programming languages. They should also have experience in the teaching of computer science.

Humbly Grove Higher Education

LECTURER II/ SENIOR LECTURER & DESIGN MANAGER

Applicants should have a degree in computer science or a related subject, and should have experience in the theory and practice of declarative programming languages. They should also have experience in the teaching of computer science.

Applicants should send their curriculum vitae, together with the names and addresses of two referees, to the Principal, Humbly Grove Higher Education, London SW7 2BZ. Tel: 0181 275 9611.

(74179)

College of York

LECTURER II/ SENIOR LECTURER

Applicants should have a degree in computer science or a related subject, and should have experience in the theory and practice of declarative programming languages. They should also have experience in the teaching of computer science.

Applicants should send their curriculum vitae, together with the names and addresses of two referees, to the Principal, College of York, York YO1 1XX. Tel: 01904 391700.

(74179)

University of York

RESEARCH ASSISTANT

Applicants should have a degree in computer science or a related subject, and should have experience in the theory and practice of declarative programming languages. They should also have experience in the teaching of computer science.

Applicants should send their curriculum vitae, together with the names and addresses of two referees, to the Principal, University of York, York YO1 1XX. Tel: 01904 391700.

(74179)

University of York

RESEARCH ASSISTANT

Applicants should have a degree in computer science or a related subject, and should have experience in the theory and practice of declarative programming languages. They should also have experience in the teaching of computer science.

Applicants should send their curriculum vitae, together with the names and addresses of two referees, to the Principal, University of York, York YO1 1XX. Tel: 01904 391700.

(74179)

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Research and Studentships continued

Laboratory for Foundations of Computer Science

This Laboratory, funded by SERC and Alvey, is an important new venture at Edinburgh, based upon a decade of leading research in theoretical Computer Science. The Laboratory will continue this research and will also conduct serious experimental application with co-operation and funding from industry. The funding will provide support staff and large computing power including a VAX, a Pyramid, Sun workstations and probably a powerful central computer.

Seven new postdoctoral research posts now exist for up to 3 years from early 1986, bringing the total of full-time researchers up to about twelve. About six permanent academic staff have research interests completely in line with the Laboratory, as do about twelve research students.

The posts are all concerned with theoretical aspects of formal systems, including semantics and proof theory, and with practical aspects of implementing these systems. A particular interest is in the theory and analysis of concurrent systems. The posts provide the opportunity for creative theoretical research and expert software design, in a research environment widely known for its achievements.

We are looking for first class researchers, with or without post-doctoral experience. Salary on Research Range 1 (£7,748 - £12,519) or Range 2 (£11,541 - £18,373). Further information can be obtained from Professor R. Milner, Dr. G. Plotkin, or Dr. G. Cleland (Assistant Director of the Laboratory).

Letters of application, including C.V. and the names of two referees should be sent to Dr. G. Cleland, L.C.F.S., Department of Computer Science, University of Edinburgh, J.C.M.B., King's Buildings, Mayfield Road, Edinburgh EH9 3JZ. (011-607-1081 Ext. 2917)

PLEASE QUOTE REFERENCE NO. 5312

(74180)

Imperial College Department of Computing

RESEARCH ASSISTANT

A Research Assistant is required for an Alvey/SEAC funded project in the area of Formal Methods for Declarative Languages. The project will investigate logical and declarative aspects of the theory and practice of declarative programming languages, as a basis for generalised program logic.

Applicants should have a degree in computer science or a related subject, and should have experience in the theory and practice of declarative programming languages. They should also have experience in the teaching of computer science.

Applicants should send their curriculum vitae, together with the names and addresses of two referees, to the Principal, Imperial College, London SW7 2BZ. Tel: 0181 275 9611.

(74179)

University of Strathclyde

POSTDOCTORAL RESEARCH ASSISTANT

Applications are invited for a two-year SERC funded Post-doctoral Research Assistantship to investigate the interactions of molecules with N-X bonds. Candidates should have a degree in chemistry, and should have experience in the theory and practice of declarative programming languages. They should also have experience in the teaching of computer science.

Applicants should send their curriculum vitae, together with the names and addresses of two referees, to the Principal, University of Strathclyde, Glasgow G1 1XL. Tel: 0141 275 9611.

(74179)

University of Oxford

LIBRARIAN

Applicants should have a degree in computer science or a related subject, and should have experience in the theory and practice of declarative programming languages. They should also have experience in the teaching of computer science.

Applicants should send their curriculum vitae, together with the names and addresses of two referees, to the Principal, University of Oxford, Oxford OX1 3JL. Tel: 01865 391700.

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BUCKINGHAMSHIRE COLLEGE

School of Art & Design, Furniture & Timber

MA Furniture Design and Technology

Applications are now invited for this unique four term course.

Candidates should either have obtained or be about to obtain a first degree in a related subject.

An application should be received by January 31st 1986. Interviews will be conducted during February. Please send for a prospectus or telephone the School on High Wycombe 22141.

University of Bradford

POSTGRADUATE DIPLOMA AND MA IN INTERPRETING & TRANSLATING

An intensive one-year course for language graduates, including:

- conference interpreting
- adding and subtracting
- translation theory

The course also features seminars by visiting professional linguists, regular interpreting practice under conference conditions and a placement with a major employer.

Former students are employed in organisations such as the EEC, the UK national government, departments and British and European companies.

Applicants with (or expecting to obtain) a good honours degree must offer TWO languages, from: FRENCH GERMAN RUSSIAN

Successful candidates are nominated for DES State Bursaries. Details and application form from Postgraduate Admissions Secretary, Modern Languages Centre, University of Bradford, Bradford, West Yorkshire BD7 1DZ. Tel: (0274) 783466, Ext. 4216.

Closing date: 1st March for course starting in October 1986. (71077)

REMINDER
COPY FOR CLASSIFIED ADVERTISEMENTS IN THE T.H.E.S. SHOULD ARRIVE NOT LATER THAN 10AM MONDAY PRECEDING PUBLICATION

Industry and Commerce

ECONOMIST Investment Management

MIM Limited, one of the leading City investment management companies, is looking for an economist to join its fund management department. The economist will assist in the management of client funds through the provision of economic advice and research. The economist will also be involved in servicing the company's client base, including the production of a regular economic publication.

Candidates should have a good first degree in economics together with postgraduate qualifications and proven ability to present information clearly. Previous experience is not essential. A competitive salary is offered together with an attractive range of benefits including subsidised mortgage and non-contributory pension scheme.



Applications in writing, with full curriculum vitae should be made to: The Personnel Manager, MIM Limited, 11 Devonshire Square, London EC2M 4YR

Colleges and Departments of Art

GLASGOW SCHOOL OF ART DIRECTOR

The governors of the Glasgow School of Art invite applications from suitably qualified and experienced candidates to fill the vacancy which will arise when the present Director (Principal) takes up office as President of the Glasgow Art Institute School at the end of July 1986.

The Director of the School is ex officio a member of the Board of Governors and of all School committees and is also Chairman of the Academic Council. The Director is responsible to the Board for all functions within the School, which both in size and tradition is ranked as one of the major Art Colleges in the United Kingdom.

The Glasgow School of Art is a Scottish Central Institution, financed by the Treasury through the Scottish Education Department. It currently consists of four faculties, namely, Fine Art, Design, Architecture and Planning with a roll of some 1,000 students. In addition there are approximately 800 non-vocational part time students.

The degree courses in Fine Art and Design are validated by the Council for National Academic Awards and those in Architecture and Planning by the University of Glasgow.

Forms of application and additional information, which should be returned by Friday 28 February 1986, are obtainable from:

Secretary and Treasurer, Glasgow School of Art, 167 Renfrew Street, Glasgow G3 6RQ.

Overseas

Technical Education Posts Overseas

Kenya Institute of Administration

Senior Lecturer in Accountancy (3 posts)

Duties: Post 1 is principally to teach financial management to final professional accountancy students; candidates should also be able to offer management accounting and/or financial accounting.

Post 2 is principally to teach auditing to final professional accountancy students; candidates should also be able to offer management accounting and/or financial accounting.

Post 3 is to assist the Head of Department of Regional Finance; to design special training programmes for finance and accounting staff of local authorities etc. Qualifications: candidates, preferably aged 30-50 years, must be British with a UK educational background. Applicants should possess either a Master's degree in Accounting or professional qualifications (eg IPFA, ACCA) and have five years teaching experience.

Salary: a basic salary paid locally by the Government of Kenya on a scale ranging from Ksh 68,660-82,320 by the British Government under its aid programme ranging from £9,912-£13,164 subject to point of entry on 26% terminal gratuity on basic salary, air passages, education allowances and holiday visits may also apply for UK-based children.

Contract: initially for 30 months with the Government of Kenya.

Date of appointment: by mutual agreement with Kenya Institute of Administration but preferably as soon as possible.

Closing date for applications: 28 February 1986. Reference: 86 K 91-98 TH

For further details and an application form please write, quoting the post reference number, to: The British Council, Overseas Educational Appointments Department, London W1P 0DT.

The British Council

Overseas continued

UNIVERSITY OF CAPE TOWN CHAIR AND LECTURESHIP IN CULTURAL HISTORY OF WESTERN EUROPE

Applications are invited for the above posts. Applicants should be outstanding scholars in Cultural History and should have a proven record in teaching and research. Applicants for both the Chair and the Lectureship should have a PhD in the discipline and be qualified to teach at the University level. The Chair holder will be expected to undertake research in the field of the Chair and to give lectures in the field. The Lectureship holder will be expected to undertake research in the field of the Lectureship and to give lectures in the field. The Chair holder will be expected to undertake research in the field of the Chair and to give lectures in the field. The Lectureship holder will be expected to undertake research in the field of the Lectureship and to give lectures in the field.

Yarmouk University

Department of Mathematics

ASSISTANT ASSOCIATE AND FULL PROFESSOR RANKS

Starting September 1986. Applicants should have a PhD in one of the following fields:

- Complex Analysis
- Functional Analysis
- Algebra
- Geometry
- Differential Equations
- Probability

Salary and level of appointment commensurate with qualifications.

Applicants should submit curriculum vitae, list of references and a list of three referees to: The Dean, Yarmouk University, P.O. Box 199, Irbid, Jordan, 19920. Tel: 014

Yarmouk University

Department of Mathematics

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Overseas continued

LANSDOWNE PROFESSOR OF LAW

Applications are invited for a new Chair in Law tenable in the Faculty of Law, University of Victoria, British Columbia, Canada as from July 1, 1986.

This position is tenured. It is the first named Chair in a Faculty established in 1974 and accommodated in an attractive new building since 1980. The Faculty has a first class library and a permanent teaching staff of 22, plus term appointees and part-time lecturers. The students number 300 and are drawn from all parts of Canada. The great majority of them enter their law studies as graduates in another discipline. The Faculty offers a three year LL.B. degree, which is accredited by all provincial Law Societies in common law Canada for the purpose of students proceeding to Call and admission.

The University of Victoria has approximately 500 faculty members, over 9,000 undergraduate students and nearly 1,000 graduate students. In addition to the Faculty of Law, the University has Faculties of Arts and Science, Education, Engineering, Fine Arts, Human and Social Development and Graduate Studies.

The successful applicant will be a person of national and international reputation who will enhance and encourage scholarship and research in his or her areas of specialization, so adding to a tradition of sound scholarship, innovative teaching and research which is well established in the Faculty.

Candidates in any given field of law are invited to apply, but preference may be given to those with particular accomplishments in (1) Business and tax law; (2) International commercial/trade law; (3) Legal skills and dispute resolution; (4) Private law subjects, comparative law, legal theory and history; or (5) Constitutional law and civil liberties.

Salary, conditions and benefits to be negotiated, but these will be in line with terms of appointment associated with comparable senior academic positions in the Faculty. Canadian immigration regulations require the university to assess applications from Canadian citizens and permanent residents of Canada before assessing applications from other persons.

Applications will be accepted until March 15, 1986 and should be submitted to Dean William A.W. Neilson, Faculty of Law, University of Victoria, P.O. Box 2400, Victoria, B.C., Canada. V8W 3H7. Telephone: (604) 721-8147. Telex: 0497222.

UNIVERSITY OF VICTORIA

BRITISH COLUMBIA, CANADA

The University of Victoria offers equal employment opportunities to qualified male and female applicants

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Literally millions of children have been helped by the NSPCC with over 80% of income coming from public generosity. To maintain these vital services to children we're asking for your support by making a special seasonal offer - a full colour map of the world printed by the famous map makers John Bartholomew.

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Cuttington University College West Africa

ASSISTANT/ASSOCIATE PROFESSORS

In Chemistry and Mathematics to teach at undergraduate level. Applicants may be M.Sc. or Ph.D. with University teaching experience or research in the respective areas. Specialized in Chemistry, Chemistry, Physical Chemistry for Materials, Chemistry for Statistics and Computer Science, and Mathematics.

Curriculum Vitae including transcripts and recommendations should be sent to the Chairman of the Selection Committee, Cuttington University College, P.O. Box 177, Monrovia, Liberia, 14010.

University of Malawi

Staff Vacancies: Kamuzu College of Nursing

Applications are invited from suitably qualified candidates for teaching positions in the following subject areas:

- (a) MEDICAL SURGICAL NURSING
- (b) COMMUNITY HEALTH NURSING
- (c) PAEDIATRIC NURSING

Candidates must have a good knowledge of Science, Nursing, and a minimum of 5 years' experience in the field, as well as teaching and/or clinical experience.

Salary scales for non-teaching staff including expatriate addition, taxable in Malawi.

ASSISTANT LECTURER

K6699 - K6174

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Family passages, various allowances, bi-monthly overseas leave, and partly-furnished housing in Lilongwe, as well as a 15% tax-free gratuity for an initial contract of 36 months and 25% for 3-4 years.

Applications should reach the Registrar, University of Malawi, P.O. Box 878, Zomba, Malawi, as soon as possible, and not later than 31st March 1986, and should include a full curriculum vitae, plus the names and addresses of three referees.